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The Giants Among Us

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INTRODUCTION

¶1 The patent world is quietly undergoing a change of seismic proportions. In a few short years, a handful of entities have amassed vast treasuries of patents on an unprecedented scale. To give some sense of the magnitude of this change, our research shows that in a little more than five years, the most massive of these has accumulated 30,000-60,000 patents worldwide, which would make it the 5th largest patent portfolio of any domestic US company and the 15th largest of any company in the world.

¶2 Although size is important in understanding the nature of the shift, size alone is not the issue. It is also the method of organization and the types of activities that are causing a paradigm shift in the world of patents and innovation.

¶3 These entities, which we call mass aggregators, do not engage in the manufacturing of products nor do they conduct much research. Rather, they pursue other goals of interest to their founders and investors. Non-practicing entities have been around the patent world for some time, and in the past, they have fallen into two broad categories.[1] The first category includes universities and research laboratories, which tend to have scholars engaged in basic research and license out inventions rather than manufacturing products on their own. The second category includes individuals or small groups who purchase patents to assert them against existing, successful products. Those in the second category have been described colloquially as "trolls," which appears to be a reference to the children's tale of the three billy goats who must pay a toll to the troll waiting under the bridge if they wish to pass. Troll activity is generally reviled by operating companies as falling somewhere between extortion and a drag on innovation.[2] In particular, many believe that patent trolls often extract a disproportionate return, far beyond the value that their patented invention adds to the commercial product, if it adds at all.[3]

¶4 The new mass aggregator, however, is an entirely different beast. To begin with, funding sources for mass aggregators include some very successful and respectable organizations, including manufacturing companies such as Apple, eBay, Google, Intel, Microsoft, Nokia, and Sony, as well as academic institutions such as the University of Pennsylvania and Notre Dame, and other entities such as the World Bank and the William and Flora Hewlett Foundation. Nations such as China, France, South Korea, and Taiwan even have their own mass aggregators to varying degrees.

¶5 Moreover, the acquisition appetites and patent supply sources are quite interesting. Mass aggregators may have portfolios that range across vastly different areas of innovation from computers to telecommunications to biomedicine to nanotechnology.[4] In some of the acquisition

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[1] Sannu K. Shrestha, *Trolls or Market Makers? An Empirical Analysis of Nonpracticing Entities*, 110 COLUM. L. REV. 114, 115 ("NPEs are firms that rarely or never practice their patents, instead focusing on earning licensing fees."); U.S. FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION, 2011 WL 838912 at 60 (2011), *available at* http://www.ftc.gov/os/2011/03/110307patentreport.pdf ("NPE also commonly refers to firms that obtain nearly all of their patents through acquisition or purchase in order to assert them against manufacturers."); *see also* Colleen V. Chien, *Of Trolls, Davids, Goliaths, and Kings: Narratives and Evidence in the Litigation of High-Tech Patents*, 87 N.C. L. REV. 1571, 1572 (2009).

[2] Chien, *supra* note 1 at 1577-78 ("The term NPE generally refers to a patentee that does not make products or 'practice' its inventions."); Jeremiah S. Helm, Comment, *Why Pharmaceutical Firms Support Patent Trolls: The Disparate Impact of* eBay v. Mercexchange *on Innovation*, 13 MICH. TELECOMM. & TECH. L. REV. 331, 333 (2006) (distinguishing between universities and patent trolls); Mark A. Lemley, *Are Universities Patent Trolls?*, 18 FORDHAM INTELL. PROP. MEDIA & ENT. L.J. 611, 629-30 (2008) (distinguishing between universities as non-practicing entities and trolls); Gerard N. Magliocca, *Blackberries and Barnyards: Patent Trolls and the Perils of Innovation*, 82 NOTRE DAME L. REV. 1809, 1810 (2007) ("'[P]atent troll' . . . is a derogatory term for firms that use their patents to extract settlements rather than license or manufacture technology."); *see also* Jay P. Kesan, *Transferring Innovation*, 77 FORDHAM L. REV. 2169, 2193 (2009) (cautioning universities against appearing troll-like because patent trolls are perceived unsympathetically).

[3] *See* Lemley, *supra* note 2, at 613-14; Magliocca, *supra* note 2 at 1810 ("Critics claim that these firms are little more than blackmailers who put a crippling tax on productive enterprises.").

[4] Pharmaceuticals seems to be the one technical area generally excluded from mass aggregation, perhaps because the pharmaceutical innovation system has evolved to include lesser degrees of technical sharing.

activity, mass aggregators purchase large chunks, and even the majority, of an operating company's patents and patent applications. They typically pay cash up front, as well as a share of any future profits generated from asserting the patents against anyone other than the selling manufacturer. Mass aggregators have engaged in other unusual acquisition approaches as well, including purportedly purchasing the rights to all future inventions by researchers at universities in developing countries. Other acquisition approaches purportedly include targeted purchases of patents that are of particular interest to the mass aggregators' investors.

¶6 The types of returns promised to investors and the types of benefits offered to participants are also quite different from garden-variety non-practicing entities, as are some of the tactics used in organizing the entities and in asserting the patents. Finally, the scale itself is simply mind-boggling. Mass aggregators operate on a scale and at a level of sophistication and complexity that would have been unimaginable a decade ago. They have taken the prototype strategies pioneered by a prior generation of non-practicing entities and changed them into some of the cleverest strategies yet seen in the intellectual property rights field.

¶7 The goal of this article is to shed some light on mass aggregators. We hope to provide some understanding of the nature of the change, to analyze its economics and implications, and to offer some normative considerations. In the descriptive section, we focus on the oldest and largest of the mass aggregators, Intellectual Ventures, which has gone to great lengths to maintain secrecy. Working from public sources and investing thousands of hours of research, we offer a detailed picture of the entity, tracing through approximately 1300 shell companies and thousands of patents. The section also describes in brief form several other mass aggregators, including ones that are public companies.

¶8 In the analytic section, we examine the potential implications of mass aggregators for the patent system specifically, for innovation in general, and for the economy as a whole. We look at the potential positive effects that mass aggregators might bring, including facilitating appropriate rewards for forgotten inventors, creating a market to connect innovators with those who can manufacture their inventions, and, most important, operating as a form of insurance—something akin to an Anti-Troll defense fund.

¶9 On the other side, we look at the potential economic dangers of mass aggregators and the market for patent monetization they create. Given the imperfections of the patent system and the odd characteristics of the product created by the market for patent monetization, mass aggregators may serve as a tax on current production that reduces future innovation. Characteristics of the market may also provide opportunities for anticompetitive behavior.

¶10 Finally, we offer a few preliminary, normative observations on whether and to what extent the sovereign, in the form of various governmental bodies, should become involved in these market-level changes. The section also considers broadly the types of changes that would have to occur for such participation to take place in a meaningful and minimally disruptive fashion.

I. FACTS

¶11 Over the last five years, information about mass aggregators has slowly filtered out into the patent community. Initial information was fueled largely by speculation as well as quiet, oblique comments from those bound by confidentiality agreements or concerned about incurring the wrath of the aggregators. As a reporter researching one of the mass aggregators noted as recently as July 2011,

> [W]e called people who had licensing arrangements with [Intellectual Ventures], we called people who were defendants in lawsuits involving [Intellectual Ventures] patents, we called every single company being sued by Oasis Research. No one would talk to us.[5]

[5] Alex Blumberg & Laura Sydell, *This American Life: When Patents Attack* (National Public Radio broadcast, July 22, 2011) (transcript available at http://www.npr.org/blogs/money/2011/07/25/138576167/when-patents-attack) (noting that the

¶12 We encountered similar reticence when we first began trying to understand the structure and activities of aggregators. "You can't find out anything about them; don't even try," is a chant that has been whispered in intellectual property circles for a number of years. It motivated us to take a hard look, and the information eventually unraveled like the yarn from an old sweater.

¶13 A literature search on Intellectual Ventures reveals many opinions about the company but few independent facts. We have aimed to fill that void by tracing the intellectual property assets that the company appears to own, identifying the sources of those assets, and describing the company's activities. The data we provide here is the result of four years of painstaking research, piecing together bits of information available from public sources.

A. Intellectual Ventures

¶14 Much about Intellectual Ventures is shrouded in secrecy. Intellectual Ventures has acknowledged that it intentionally withholds the true scope and nature of its IP portfolio.[6] Its licensing transactions and interactions are protected by strict nondisclosure agreements, and the structure of its business activities makes it difficult to get a handle on the full extent of its activities. For example, our research has identified more than a thousand shell companies that Intellectual Ventures has used to conduct its intellectual property acquisitions, and it has taken considerable effort to identify these. The range and scope of its activities are so vast that it is difficult to conceptualize the reach of Intellectual Ventures.

¶15 Intellectual Ventures was founded in 2000 by Nathan Myhrvold and Edward Jung, both of whom formerly served in high-level positions at Microsoft.[7] Peter Detkin also played a key management role in developing Intellectual Ventures.[8] In one of patent law's great ironies, Detkin coined the derogatory term "patent troll" during his tenure as the chief intellectual property officer at Intel.[9]

¶16 Although operations began in 2000, Intellectual Ventures does not appear to have begun its massive patent acquisitions in earnest until somewhere around 2004 or 2005, when the annual number of acquisitions transaction we could identify rose from a handful to several hundred.

¶17 According to Intellectual Ventures, invention *per se* is its product, and both Myhrvold and Detkin have referred to the company's business model as "Invention Capitalism." They define Invention Capitalism as applying concepts from venture capital and private equity to develop and commercially exploit new inventions.[10]

¶18 Although Intellectual Ventures is designed to make money from trading in patent rights, the founders describe their activities as ones that will incentivize research and development in all technical subjects. Myhrvold, for example, has been quoted as saying the following:

> Most of people think of research as a charity, a philanthropic thing. They don't view it as a for-profit venture. So our goal is to make research something you can invest in. I think it's

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reluctance was fueled in part by fear and in part by Intellectual Ventures' nondisclosure agreement, rumored to be the strictest in Silicon Valley).

[6] *See* Victoria Slind-Flor, *The Goodfellas: Detkin and Myhrvold on Patents, Trolls & Intellectual Ventures*, 19 INTELL. ASSET MGMT. 28, 34 (noting that Intellectual Ventures will not reveal how many patents it has or the entities to which it has licensed technology, and quoting Myhrvold's response that "We're a private company. We don't disclose our investment plans any more than Warren Buffet does."); *see also* Steve Lohr, *Turning Patents into 'Invention Capital'*, N.Y. TIMES, Feb. 18, 2010, at B1 (paraphrasing Myhrvold as saying that Intellectual Venture's "penchant for secrecy" is a legacy from its startup days when it "did not want to tip its hand").

[7] Intellectual Ventures LLC was formed on September 21, 1999. Corporations Division – Registration Data Search, WASH. SEC. OF STATE, http://www.sos.wa.gov/corps/search_detail.aspx?ubi=601981783 (last visited Nov. 15, 2011). Nathan Myhrvold formerly served as Microsoft's chief technology officer, and Jung served as Microsoft's chief architect. *Our Team*, INTELLECTUAL VENTURES, http://intellectualventures.com/WhoWeAre/OurTeam.aspx (last visited Nov. 15, 2011).

[8] Detkin joined Intellectual Ventures in 2002. Peter N. Detkin, *Leveling the Patent Playing Field*, 6 J. MARSHALL REV. INTELL. PROP. L. 636 n.* (2007), *available at* http://www.jmripl.com/Publications/Vol6/Issue4/Detkin.pdf.

[9] *Id.* at 636 (stating that he coined the term); Brenda Sandburg, *You May Not Have a Choice. Trolling for Dollars*, THE RECORDER (July 30, 2001), http://www.phonetel.com/pdfs/LWTrolls.pdf (using the term and attributing it to Detkin).

[10] *See* Detkin, *supra* note 8, at 636 n.*; Lohr, *supra* note 6 (citing Nathan Myhrvold); Nathan Myhrvold, *The Big Idea: Funding Eureka,* HARVARD BUSINESS REVIEW, Mar. 2010, at 40, *available at* http://hbr.org/2010/03/the-big-idea-funding-eureka/ar/1.

> a valuable investment if you know what you're doing. So we think that if we supply capital and expertise in the right way then we can make a hell of an investment and if we are successful at doing it, the net research budget will go up.[11]

¶19 The scope of Intellectual Ventures' activities is so vast that it is difficult to contemplate the reach of the company. It has invested in innovations and technologies across a broad spectrum of industries—everything from computer hardware to biomedicine to consumer electronics to nanotechnology. In more than 1,000 transactions, by our count, the company has acquired inventions and related intellectual property from individual inventors, corporations of all sizes, governments, research laboratories, and universities.

¶20 Getting a handle on the scope and activities of an entity as secretive as Intellectual Ventures is not easy.[12] We have tried to create a picture of the company by piecing together information from publicly available sources. These sources include the patent assignment records of the United States Patent and Trademark Office (USPTO); the USPTO's PAIR database,[13] which includes the file histories of patents; the USPTO's patent and application database; government records for key states, including Delaware, Nevada, Washington, and California; Internal Revenue Service filings for non-profit entities; Securities and Exchange Commission data from 10Q and 10K filings by corporations; the Federal Register; filings made in dozens of litigations; and press releases and other publications from various entities.

¶21 The structure of the Intellectual Ventures network of operations makes it tremendously difficult to detect and trace the company's activities. For example, Intellectual Ventures has acknowledged that it uses shell companies for purchasing and holding patents, although it has not publicly identified the number of shells or their names.[14] In 2006, one magazine identified 50 shell companies that it believed were being operated by Intellectual Ventures. Our research has pieced together 1276 shell companies associated with Intellectual Ventures. We do not believe that we have identified all of the Intellectual Ventures shell companies, but these 1276 companies alone hold roughly 8000 US patents and 3000 pending US patent applications as of May 2011.[15]

¶22 Even with some knowledge of the shell companies, tracking the Intellectual Ventures portfolio is complicated by the fact that Intellectual Ventures has at times neglected to record its ownership for long periods of time. In some cases, for example, we found parties indicating that they had sold or licensed patents to Intellectual Ventures—even to the point of identifying the intellectual property with great particularity—but we could not locate a corresponding assignment in the USPTO database.[16]

¶23 Although Intellectual Ventures has never divulged the precise nature and extent of its portfolio, the company has reported that it holds some 35,000 "invention assets."[17] The company does not define the term, but we assume that this phrase refers not only to patents but also to patent applications, non-filed invention disclosures,[18] design patents, trademarks, and any trade secrets

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[11] Nathan Myhrvold, Speech at the Churchill Club in Palo Alto, CA (Feb. 27, 2007).

[12] Credit for this exhaustive research goes to co-author Tom Ewing.

[13] PAIR stands for Patent Application Information Retrieval.

[14] *See* Slind-Flor, *supra* note 6, at 32 (quoting Peter Detkin as acknowledging that Intellectual Ventures uses shells for acquisitions and noting that many companies do this to keep potential liabilities of the acquired company from affecting the whole organization).

[15] At least 175 of the patents acquired by Intellectual Ventures have reached the end of their terms and expired. Likewise, many more of their patents will expire in just a few years. We have not checked patent maintenance fee payment information to determine if any of the other patents have expired due to failure to pay maintenance fees. In any event, the "active" US portfolio is likely a bit smaller than suggested by the numbers above.

[16] In one case, Intellectual Ventures opted not to record a change of ownership for 2506 days following execution. An assignment for US Publication No. 20090254972 was executed on Aug. 9, 2002, but not recorded until June 19, 2009. *See* , USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Publication Number" for "20090254972").

[17] Press Release, Intellectual Ventures, BlueCat Networks Signs Patent Agreement With Intellectual Ventures (June 28, 2011), *available at* http://intellectualventures.com/newsroom/pressreleases/11-06-28/BlueCat_Networks_Signs_Patent_Agreement_With_Intellectual_Ventures.aspx.

[18] The company has claimed to have some 3000 unfiled invention disclosures. *See* Tom Ewing, *Inside the World of Public*

owned or licensed by the company. Further confusing the issue is whether the company counts as "invention assets" patents or only patent families. The company also is not clear about where these assets exist, but we assume that this number represents the company's worldwide portfolio. If the 35,000 number were to represent the company's United States portfolio alone, Intellectual Ventures would hold a portfolio larger than IBM's United States portfolio, which is generally acknowledged as the largest domestic portfolio.

¶24 To give a fuller picture of precisely what Intellectual Ventures owns, we assembled as much information as possible from public sources on the company's holdings that are actually patents. To summarize the information below, we estimate that Intellectual Ventures has a worldwide portfolio of 30,000-60,000 patents and applications as of May 2011. This would mean that in just a few short years, Intellectual Ventures has acquired at least the 5th largest patent portfolio among US companies and approximately the 15th largest patent portfolio worldwide.[19]

B. Patents and Applications Held by Intellectual Ventures

¶25 With a great deal of digging, we were able to locate 1276 shell companies and related entities that appear to be associated with Intellectual Ventures.[20] These companies hold approximately 8000 US patents and 3000 pending US patent applications. We do not believe that we have found all of the shell companies.[21] Nevertheless, we believe we can calculate a reasonable approximation of Intellectual Ventures' patent holdings. The overall size of Intellectual Venture's portfolio can be estimated in several ways based on the information that we have obtained. The estimate below comes from what we have learned about these 1276 shell companies.[22]

¶26 We begin by using information about Intellectual Venture's shell companies. First, we have identified some 50 shells that appear to serve a management function, one shell that serves a trademark function, a dozen or so that serve investment functions. Of the remaining 1200 companies, 954 companies have patents recorded against their names, and some 242 shells do not have patents recorded against their names, although some of them clearly hold licensed-in patent rights.

¶27 We have noticed that Intellectual Ventures has a pattern of establishing a shell to receive assets well before the transaction related to those assets has been completed. Thus, we suspect that at least some of the 242 companies without patents recorded against their names are awaiting allocation of assets from a patent-related transaction. We suspect that others have already experienced a patent-related transaction, but that the transaction has yet to surface in the public record. For example, if Intellectual Ventures receives an exclusive license to a patent, the effect would be similar to owning the patent outright, but the parties would not necessarily record a change of patent ownership with

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Auctions, 42 INTELL. ASSET MGMT. 67 (2010).

[19] Patent holdings are difficult to compare and rank because, among other things, to be completely accurate, one must account for patents expired on the basis of age and/or failure to pay annuity/maintenance fees.

[20] The shell companies that we know about seem to serve the following functions: 1201 patent holding shells, 1 trademark holding shell, 51 asset management shells, and 24 executive and investment shells. See Appendix C for a further discussion of research methodology.

[21] As noted elsewhere, we have found approximately 100 other companies registered in Delaware that appear to be shell companies but do not presently hold patents. We will continue to monitor these companies.

[22] The size of Intellectual Ventures' portfolio can also be estimated based upon how much the company has spent acquiring this portfolio and how much they have spent per patent. As an arbitrage buyer, one could assume that Intellectual Ventures spends roughly the same amount per patent in all of its purchases. Myhrvold reported that Intellectual Ventures had spent $1.163 billion acquiring patents by May, 2009. Nigel Page, *IV Shifts Gear*, 36 INTELL. ASSET MAG. 9, 10 (2009). In a study of Ocean Tomo patent auctions, we concluded that Intellectual Ventures had spent a little more than $61 million acquiring 410 US patents and their foreign counterparts at an average cost of $148,966 per US patent obtained. Tom Ewing, *Publicly Auctioned Patent Buyers*, 34 AVANCEPT (2010). Some published reports have said that Intellectual Ventures pays only $40,000 per patent. Page, *supra* at 13. Application of this information combined with additional information about the growth of Intellectual Ventures' portfolio since May, 2009 leads to an estimated US portfolio of 10,149 US patents and 27,649 foreign patents by May, 2011 along with several thousand pending applications worldwide. This second estimate fits well with the estimate based upon analysis of patent-holding shell companies.

the USPTO, especially if the recipient of the exclusive license believed it highly unlikely that the registered patent owner would resell the patent to someone else.

¶28 The 954 shell companies that have patents recorded against their names have an average of 8.5 patents and 3.2 patent applications per company. Assuming that the other 242 shell companies contain unrecorded transactions, and applying these averages would yield another 2057 patents and 774 applications. Adding these missing patents and applications to our totals would yield roughly 10,000 patents and 3700 applications.[23]

¶29 Intellectual Ventures also claims that it files roughly 500 applications per year and that it is now one of the top 50 US patent filers. The company is somewhat vague as to whether these 500 applications comprise just those from its invention sessions or whether further filings[24] from purchased portfolios are included in this total. In any event, given that patent applications publish 18 months after filing, there should be roughly 750 presently unpublished patent applications as of May 2011.[25] Including unpublished applications keeps our estimate of US patents at 10,000 but the number of applications rises to roughly 4400.

¶30 The actual portfolio may be substantially smaller or larger than this estimate suggests. For example, if Intellectual Ventures has been more prompt about recording assignments than appears to be the case, then the portfolio may be smaller. Conversely, if Intellectual Ventures has significantly more shell companies than we have found, then the portfolio may be substantially larger than our estimate.

¶31 Despite having uncovered more than 1200 shell companies, we have little doubt that other shell companies have been formed. Exclusive licenses granted to Intellectual Ventures represent the greatest source of unknown patents since these agreements may not necessarily be recorded against the patents to which they pertain. For example, we are aware of transactions involving the University of Rhode Island and Campinas State University in Brazil, but we have no idea what shell company was involved. The University of California, San Diego has reported agreements with five shell companies but the patents involved in the licensing arrangement have not been recorded.[26] Similarly, the US Navy publicly disclosed the licensing of patents to two shell companies, but these licenses have not been recorded.[27]

¶32 In terms of the non-US portion of the portfolio, we note that approximately half of Intellectual Ventures' US portfolio originated with non-US entities. Many of these came from European entities, where intellectual property seems to be particularly undervalued in relation to United States intellectual property.[28] This suggests that Intellectual Ventures may be acting as an arbitrageur to exploit the disparities in intellectual property valuation between the United States and the rest of the world. Finally, in contemplating the size of the company's foreign patents, we note that a sizeable portion of the company's portfolio is fairly young, and as a general matter, younger portfolios are prosecuted more vigorously in international jurisdictions than has historically been the case for older portfolios.[29]

¶33 These factors strongly suggest that a typical US patent in the Intellectual Ventures' portfolio has at least one foreign counterpart. Given that the world has more than 150 patent-granting countries, the global scope of any patent portfolio can jump tremendously when the foreign counterparts are

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[23] This estimate does include certain recently acquired portfolios or apparently allied ones.

[24] E.g., continuation applications and reissue applications.

[25] The earliest that an application filed in December 2010 would publish is June 2011, and only if the application had a foreign counterpart. Otherwise, the application will typically remain secret until it issues as a patent.

[26] These companies are Eilean Technologies, Jacksonville Timucuan, Discovery Advance, Bettles Gates, and 10Spot.

[27] These companies are Bixenta Ventures and NanoComm Systems.

[28] Gaetan de Rassenfosse, *How SMEs Exploit Their Intellectual Property Assets: Evidence from Survey Data* 2, 3-4, 8, 18 (Melbourne Inst. of Applied Econ. and Soc. Research, Working Paper No. 20/10, 2010), *available at* http://www.springerlink.com/content/g3g2641632872gp3/.

[29] *See, e.g.*, WORLD INTELLECTUAL PROP. ORG., WORLD PATENT REPORT, A STATISTICAL REVIEW 7 (2008), *available at* http://www.wipo.int/export/sites/www/ipstats/en/statistics/patents/pdf/wipo_pub_931.pdf.

considered.[30] Not all patents have a foreign counterpart, however, and most patents do not have foreign counterparts in more than a handful of countries.

¶34 We did not search foreign corporate records, but it is possible that one could find more Intellectual Ventures patents that way—not just foreign patents held by Intellectual Ventures but also US patents held by the company. For example, we happened upon two examples of this in finding a set of US patents that Intellectual Ventures obtained from two foreign companies, only because the transactions with the shell companies were mentioned in documents published by the foreign company that we discovered during our research.[31]

¶35 Based on the information above, we assume that the typical Intellectual Ventures US patent has also been filed in two to four foreign jurisdictions as well. Extrapolating only from the US patents, and not taking into account any patents Intellectual Venture may have acquired that were filed only in foreign jurisdictions, the worldwide portfolio would be roughly 20,000-40,000 patents[32] and 9,000-18,000 applications, by May 2011. Thus, adding the estimated number of patents and patent applications together would suggest a portfolio that ranges from approximately 29,000 to 58,000 patents and applications worldwide. This range is, of course, an estimate, although a reasonably conservative one. Nevertheless, even these figures would place Intellectual Ventures among the 5th largest patent portfolio holders in the United States and among the 15th largest patent portfolio holders worldwide.

C. Origins of the Portfolio

¶36 We were able to find evidence that Intellectual Ventures has engaged in more than 1000 acquisition transactions. Through these transactions, the company has acquired inventions and related intellectual property from individual inventors, corporations of all sizes, governments, research laboratories, and universities.[33]

¶37 Intellectual Ventures states that its portfolio has been built through transactions variously classified as "strategic acquisitions," "targeted acquisitions," and "in-bound market-driven" opportunities. We suspect that some of the larger transactions also arise in conjunction with an investment in Intellectual Ventures by the party supplying the patents. The targeted acquisitions are purposeful acquisitions based on either rounding out or completing a portion of Intellectual Ventures' portfolio or a targeted growth area for the future.

1. Acquisitions Through University Transactions

¶38 The transactions with universities are particularly interesting, not necessarily as a percentage of the company's portfolio, but as offering insight into Intellectual Ventures' vision and potential effects on innovation. The company has announced that it has relationships with some 400 universities, although it has not identified all the institutions involved.[34] These relationships are not necessarily public because they may involve patents whose ownership remains with the university. For example,

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[30] Additionally, some patent owners continue to count provisional applications and PCT applications as being part of their portfolios long after these applications have expired. Similarly, some patent owners double count their EPO patents by counting the EPO-published patent applications while also counting the applications' counterpart issued patents throughout Europe. Finally, many patent owners do not distinguish patents granted by examination systems from patents granted by registration systems, which causes further confusion. In short, it is easy to inflate the numbers of a patent portfolio once international filing occurs. Discussing "patent families" helps somewhat, although there are also ways making a portfolio appear to have more families than it has in actuality.

[31] The two foreign companies noted here are Campinas and Torino Wireless.

[32] This "worldwide" estimate includes the US patents.

[33] Intellectual Ventures often gives the impression that much of its portfolio has been built by acquiring one or two patents from small inventors. In reviewing the transactions that we know about, we have found the following distribution of first-level sellers: Small and Medium Enterprises, 36.5%; Individual inventors, 25.7%; Large Companies, 15.8%; Consultants and brokerages, 14.3%; Universities, 5.3%; and Governments, 2.4%. The largest transactions in terms of number of patents involved have come from large companies and governments.

[34] *Intellectual Ventures Worldwide*, INTELLECTUAL VENTURES, http://intellectualventures.com/WhoWeAre/Worldwide.aspx (last visited Nov. 15, 2011).

the company may simply receive an exclusive license to commercialize the intellectual property involved, which would not necessarily appear as a recorded transfer of ownership. Nevertheless, we were able to find nearly 50 universities that appear to have signed deals with Intellectual Ventures, which we have listed at Appendix A. Some deals may involve sale or licensing of a few patents, some may involve investment by the university in Intellectual Ventures, and some may involve wholesale assignment of future innovation.

¶39 We did find one fascinating example of the wholesale assignment of innovation with an institution in a developing nation and have heard that this may represent a pattern. Specifically, we found a summary of an agreement with Brazil's Campinas University, one of that country's largest academic institutions. In that agreement, Intellectual Ventures appears to have secured the rights to file Patent Cooperation Treaty (PCT) patent applications for inventions developed at the university. In other words, the university may file domestic patent applications in its own country, and then Intellectual Ventures has the right to file PCT applications and secure worldwide rights to the inventions. The agreement appears to provide some revenue-share potential with the university as the result of Intellectual Ventures' commercialization, although we were not able to determine the specific terms and conditions.

¶40 We have been told that similar deals exist with universities in other developing countries. It is certainly a forward-looking approach towards gathering rights to future innovation, but it is one that could backfire on the company. Suppose, for example, that some individuals at academic institutions become unhappy with the deal and respond by creating very little that would fall within the terms of the agreement for the period of the agreement or by simply devoting their efforts to non-patentable activities. That would be a bad result on all levels—for the academic institution, for Intellectual Ventures, and for innovation as a whole.

2. Acquisition Through Portfolio Assumption

¶41 Another source of patents for Intellectual Ventures comes from offering a turnkey licensing service for small-to-medium enterprises. Consider, for example, the deal that Intellectual Ventures completed with the Digimarc Corporation in 2010. According to Digimarc's SEC filings, the company has granted Intellectual Ventures an exclusive license with the right to sublicense almost all of Digimarc's patents.[35]

¶42 The broad terms of Digimarc's deal with IV are as follows:

- a license issue fee of $36 million, paid in increasing quarterly installments over three years;
- 20% of the profits generated from the IV's licensing program, less expenses that include the license issue fee above;
- IV assumes responsibility for approximately $1 million per year in prosecution and maintenance costs previously borne by Digimarc for the licensed patents;
- a minimum of $4 million of paid support over five years from Digimarc to assist IV in licensing-related efforts; and
- a royalty-free grant-back license to the licensed patents to continue Digimarc's existing business related to those assets.

¶43 Thus, Intellectual Ventures buys the rights to most of Digimarc's patents, assumes the costs of maintaining the portfolio, and gains the right to go after other companies. Digimarc gets a cash payment plus a percentage of income earned when Intellectual Ventures goes after other companies

[35] The deal includes 597 patents and 288 patent applications owned by Digimarc. The company has retained 4 patents and 128 patent applications, as well as 26 patents and 26 patent applications for which it holds rights with third parties.

with the portfolio. Digimarc also retains a license to use the patents, as long as the use relates to its existing business.

C. Funding Sources

¶44 To finance its acquisitions and operations, Intellectual Ventures has raised at least $5 billion, according to published reports.[36] The company's initial funding seems to have come from operating companies such as Microsoft, Intel, Sony, Nokia, Apple, Google, and eBay. Subsequent funding sources include financial investors, comprised heavily of institutional endowments and wealthy individuals. These include the William and Flora Hewlett Foundation, the University of Pennsylvania, the University of Notre Dame, Grinnell College, and Charles River Ventures. The Bill and Melinda Gates Foundation has asked Intellectual Ventures to perform some contract research related to antimalarial devices; as far as we can tell, this is the only physical product made by the company, apart from some prototype work in a nuclear reactor co-invented by Myhrvold.[37]

¶45 Intellectual Ventures' investments are distributed among more than five funds, and the investors have not necessarily invested in each fund or in each fund equally.[38] In litigation against Xilinx in May 2011, Intellectual Ventures was forced to disclose the investors for four of its funds. In addition to the initial funding group mentioned above, investors included Amazon.com, American Express, Adobe, Cisco, Verizon, and Yahoo!, as well as Xilinx itself.[39]

¶46 According to Myhrvold, the funds raised by Intellectual Ventures are in the form of capital commitments that the company can use over a certain time period. The company claims that it has been structured to operate in a manner resembling that of venture capital and private equity funds. Thus, the company strives to receive approximately a 2% management fee plus 20% on the carried interest,[40] although actual terms from may vary significantly from fund to fund and acquisition to acquisition.

D. Return on Investment

¶47 One of the most interesting questions about mass aggregators, and one that is difficult to generalize, is what do investors get in return? The investors vary tremendously, as do the types of deals they are likely to have made. Some investors appear to be interested both in financial returns and in access to Intellectual Ventures' vast pool of patents.[41] As Vincent Pluvinage, Intellectual Ventures' former head of acquisitions, once explained, for investors that are technology companies, Intellectual Ventures can provide a defensive function in the form of access to patent licenses.[42] Pluvinage has stated, in fact, that some technology company investors have indicated specific

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[36] *Investing in Invention*, INTELLECTUAL VENTURES, http://intellectualventures.com/WhoWeAre.aspx (last visited Nov. 15, 2011); Defendants' Certificate of Interested Entities or Persons Pursuant to Civil Local Rule 3-16 and FRCP 7.1, Xilinx, Inc. v. Invention Investment Fund 1 LP, No. 11-CV-0671-SI (N.D. Cal. May 16, 2011).

[37] *The Need for Innovation in Energy*, INTELLECTUAL VENTURES, http://intellectualventures.com/OurInventions/TerraPower.aspx (last visited Nov. 15, 2011); John Letzing, *Myhrvold's Patent Firm Sees Revenue Swell*, MARKETWATCH (Mar. 4, 2011, 1:58 AM), http://www.marketwatch.com/story/myhrvolds-patent-firm-sees-revenue-swell-2011-03-04.

[38] These funds include: the Invention Science Fund I LLC; the Invention Science Inventors Fund I, LLC; Invention Science Management Fund I, LLC; the Invention Development Fund I LLC; the Invention Investment Fund I LP, the Invention Investment Fund II LLC, the Intellectual Ventures Fund I, and the Intellectual Ventures Fund II.

[39] The full list of investors in the four funds is listed at Appendix B.

[40] Page, *supra* note 22, at 10.

[41] For example, Verizon paid $350 million for patent licenses and an equity stake in one of Intellectual Ventures' investment funds in July 2008, according to published reports. *See, e.g.*, *Law.com - Verizon Patent Case Marks a First for Intellectual Ventures*, LEGAL TECHNOLOGY TODAY (Feb. 26, 2010), http://www.legaltechtoday.com/2010/02/26/law-com-verizon-patent-case-marks-a-first-for-intellectual-ventures-2/. Intuit similarly struck a $120 million deal with Intellectual Ventures in early 2009. *See, e.g.*, Zusha Elinson, *Intellectual Ventures and Intuit Work Out $120 Million Licensing Deal, Say Sources*, THE RECORDER (June 24, 2009), *available at* http://www.law.com/jsp/article.jsp?id=1202431711930&slreturn=1.

[42] For a description of using patents as bargaining chips in infringement litigation, see *infra* text accompanying note 169.

technology areas where they would like Intellectual Ventures to acquire patent rights in order to obtain license rights.[43]

¶48 Another category of investors, however, would have little interest in access to patents. For example, one would not expect the William and Flora Hewlett Foundation or the World Bank to be particularly interested in patent licenses. In fact, Pluvinage confirmed that the company has some purely financial investors, and financial investors typically have no need for patent licenses. Pluvinage believes that the financial investors have chosen Intellectual Ventures and the general category of intellectual property as an investment because it's believed to be uncorrelated to other investment classes.

¶49 For investors who get access to the patent pool, that access provides something far more sophisticated and complex than the patent licenses that would be necessary to produce a product.[44] Consider the story of Verizon, which paid $350 million for patent licenses and an equity stake in one of the Intellectual Ventures Funds in 2008. TiVo sued Verizon for infringement.[45] Verizon purchased a patent from one of Intellectual Ventures' shell companies, which was then put to work as a counterclaim in the TiVo suit[46] in a program that Intellectual Ventures calls "IP for Defense."[47]

¶50 One can see a similar progression with Vlingo. Nuance Communications sued Vlingo for infringement. At the time of the lawsuit, Vlingo's portfolio contained mostly pending applications.[48] With this type of portfolio, a company would have nothing available for countersuit. Vlingo didn't buy just one patent, as Verizon did, it bought seven patents from Intellectual Ventures and used five of them to sue Nuance. Thus, with both Vlingo and Verizon, the company was able to purchase the patents needed for leverage in litigation, just at the time it was needed.[49]

¶51 Such transactions would be even more interesting if the arrangements allowed the purchaser to sell the patent back to the aggregator at the conclusion of the litigation.[50] This would resemble a leasing program, or perhaps a form of a patent library, in which those who invest in mass aggregators could obtain just the right patent needed at just the right moment, returning the patent when the need has passed. The purchaser might even be able to make a profit on the transaction, given that a litigation-tested patent is presumably more valuable than an untested patent.

¶52 Access to a vast patent pool could be enormously valuable to a technology company, but one must be careful of the hand that feeds. When infringement litigation broke out between Intellectual

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[43] Page, *supra* note 22, at 11 (quoting Pluvinage's statement that financial investors invest in Intellectual Ventures because "it's uncorrelated and long term." For strategic investors, Intellectual Ventures offers a "defensive function," including the ability to tell Intellectual Ventures "which technology domain they want access to").

[44] We do not know if Intellectual Ventures' licenses are perpetual or require recurring royalty payments.

[45] Tivo sued Verizon on August 26, 2009. TiVo Inc. v. Verizon Comm'cns, Inc., No. 2:09-CV-257, 2010 U.S. Dist. LEXIS 112320 (E.D. Tex. filed Aug. 26, 2009).

[46] The Intellectual Ventures shell was originally named Aerosound LLC before a recordation of its name change was made with the USPTO on February 17, 2010. *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5410344"). It is uncertain precisely when Verizon bought this patent, as the transaction has not been recorded at the USPTO; however, the counterclaim was added on February 24, 2010, and Verizon asserts that all rights in the '344 patent have been acquired by a wholly owned subsidiary named Services Corp. *See* Defendant's Answer to First Amended Complaint and Counterclaims at 15, Tivo, Inc. v. Verizon Commc'ns, Inc., No. 2:09-CV-257-DF (E.D. Tex. 2010). The USPTO assignment database shows no patents assigned to "Services Corp." *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Services Corp").

[47] *Value-Added Solutions & Services*, INTELLECTUAL VENTURES, http://www.intven.com/ProductsServices/Licensing/ValueAddedProducts.aspx (last visited Dec. 5, 2011.).

[48] Vlingo also had two purchased patents, one from RPX and one from Nuance.

[49] Intellectual Ventures Moblcomm 1 LLC sold US Patent No. 5,680,388 to Apple, Inc. on March 7, 2011. The patent was originally owned by mobile telephony pioneer TeliaSonera. The patent, entitled "Method and Arrangement for Dynamic Allocation of Multiple Carrier-Wave Channels for Multiple Access by Frequency Division of Multiplexing" pertains to a level of telecommunications infrastructure not likely to have emerged from Apple's own organic R&D programs. The patent does not yet appear to be involved in the emerging smartphone patent wars. *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5680388").

[50] One Intellectual Ventures executive told one of the authors that the option to repurchase was a term of the Verizon deal, but we have not been able to independently verify this.

Ventures and Xilinx in 2011, it was interesting to note that Xilinx itself is listed as an Intellectual Ventures investor.

¶53 Xilinx had filed a declaratory judgment suit against Intellectual Ventures after Intellectual Ventures sued three of Xilinx' competitors. One cannot help but wonder what might have transpired between Intellectual Ventures and its investors that led the parties to litigation under these circumstances. No information is available, but one could imagine that the following might have happened. Perhaps Xilinx's agreement with Intellectual Ventures includes that Xilinx purchases both an interest in the Intellectual Ventures investment fund and a license to use some of Intellectual Ventures' patents on a true-up basis. If the license royalty is based on sales data from Xilinx, and Intellectual Ventures began to doubt that Xilinx was properly reporting its data or to dispute that data, one could see the infringement suits against Xilinx's competitors as serving a dual purpose. The suits have the potential to both bring in settlement money from Xilinx's competitors and to send a message to Xilinx that Intellectual Ventures has confidence in its patents and is serious about its demands. Under that scenario, the Xilinx suit, in which Xilinx asks the court to declare the Intellectual Ventures' patent either invalid or not infringed by Xilinx, coupled with a Xilinx discovery request that has the effect of publicly revealing a list of the Intellectual Ventures investors, can be seen as Xilinx's cannon shot reply.

1. Capital Returns

¶54 One of the most striking figures to consider is the amount of revenue Intellectual Ventures will need to generate if it is going to operate successfully in the venture capital model it has selected for itself, paying acceptable profits to its investors as well as its principals. In particular, Intellectual Ventures defines itself in comparison to venture capital and private equity firms. Venture Capital firms typically must provide profits to their investors that substantially exceed those of other investments in order to be considered successful. Venture capital funds tend to be extremely illiquid, with lifetimes of approximately 7-10 years during which the investor's capital is often unavailable. This illiquidity is one justification for higher expected returns than the returns from more liquid investments.

¶55 None of Intellectual Ventures' network of companies is public, and Intellectual Ventures has not precisely distinguished publicly which part of its corporate network is the "VC firm/fund" part and which part is the "VC investment" part. The typical venture capital company invests in unrelated businesses whose origin does not trace back through to the general partners who created the investment fund. In the absence of an explanation, we will assume that the VC fund part comprises shell companies like the Invention Investment Fund I LP, and the VC investment part comprises patent-owning shell companies like Ferrara Ethereal LLC. We are also uncertain if any restrictions have been placed on the ability of the limited partners (the investors) in the VC fund portion to sell their shares to third parties. In the absence of being listed on a public exchange, even if these shares can be sold, they are less liquid than shares in public companies and may possibly have additional restrictions that render them even more illiquid.

¶56 Myhrvold, Detkin, and other Intellectual Ventures executives have repeatedly described the company as a venture capital or private equity company operating in the intellectual property rights space. Given the comparison that Intellectual Ventures has chosen for itself, combined with the well-heeled investors the company has drawn, and in consideration of the other investments these investors could have made instead, one could presume that the institutional investors assumed that Intellectual Ventures intends to pay them profits at least comparable to those of a successful venture capital or private equity firm. Some of the institutional investors may also have been intrigued with intellectual property rights as an asset class in a diversified portfolio.

¶57 The minimum return, given the risk and illiquidity that investors in venture capital or private equity firms expect in the United States is approximately 20%, especially in the era preceding the financial crisis when many of Intellectual Ventures' funds were raised. In Intellectual Ventures' case, this may well be a very conservative number. Investors often look for comparable investments in

determining risk. Acacia Research Corp., a public patent rights licensing company and therefore more liquid than a typical VC investment, probably provides the closest comparable to an investment in Intellectual Ventures. During the 2002-2007 time period, when many of Intellectual Ventures' funds were likely being raised, Acacia's shares grew more than 30% per year on average without any consideration of dividends paid by Acacia which would also be part of its value growth. Over the 2002-2011 time period, Acacia's shares grew by even more. All things being equal, one might expect that a rational investor would choose to make a more liquid and less risky investment in Acacia's stock, than an illiquid and riskier investment in Intellectual Ventures—unless Intellectual Ventures had the promise of substantially greater returns. Nevertheless, we will use a conservative 20% return for our calculations of Intellectual Ventures' minimum expected return to investors. Intellectual Ventures has said that of the money it makes from the investors' capital, it intends to keep 20% of the profit for itself as carried interest and that it will also charge a 1-2% management fee calculated as a percentage of capital raised. We will use the figure 1.5% as an average management fee for simplicity. Therefore, the total expected minimum revenue needed to generate anticipated profits for the investors and Intellectual Ventures as well as paying the management fees would need to be a little over 25% per year.

¶58 Although the length of investment is an unknown parameter, assume a 10-year investment lifetime, which is not uncommon in the venture capital world.[51] Combining these parameters with $5 billion in investment would yield a lifetime revenue expectation for all the funds of roughly $40 billion to be considered a minimally successful investment. This calculation assumes that investors receive the profits at the end of the fund's lifetime. If one assumes that the funds have lifetimes longer than 10 years, then the revenue expectations grow substantially larger. If, for example, Intellectual Ventures has pegged the revenue expectations at the 20-year lifetime of a patent, the lifetime expectation for the funds jumps to a minimum of $244 billion in order to generate the expected profits and cover management fees and capital costs.

¶59 These calculations assume that all of Intellectual Ventures' $5 billion in investment commitments have actually been received and invested by the company. Intellectual Ventures has been somewhat coy about how much of the $5 billion it has actually received. If it receives just $1.5 billion from investors (a mere 30% of the reported commitments), then the 10-year revenue expectations still amount to $12 billion,[52] an amount comparable to the amount that IBM will receive from intellectual property rights royalties over the same time period.[53]

E. Collecting Revenue: Privateering & Other Exploits

¶60 Intellectual Ventures claims to have collected approximately $2 billion in licensing fees so far, based on the company's disclosures and recent licensing deals.[54] Most large-scale IP licensing today exists only among very large technology companies, and this is consistent with Intellectual Ventures' licensing efforts at this point. Myhrvold, however, told the Wall Street Journal in 2008, that the company ultimately plans to sign up hundreds or even thousands of companies as patent licensees.

¶61 Intellectual Ventures has recently begun describing its services as bridging "the invention gap." So, in a delightful metaphorical twist, the ugly troll under the bridge now works to help the goats over the stream (although the goats presumably still tender a cash award to the helpful troll).

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[51] Venture capital firms generally require long-term investments in which the investor does not expect returns for 7-10 years. *FAQ,* NATIONAL VENTURE CAPITAL ASSOCIATION http://www.nvca.org/index.php?Itemid=147&id=119&option=com_content&view=article (last visited Nov. 15, 2011). There is a 20% minimum venture capital fund return. *See* BASIL PETERS, EXIT STRATEGIES FOR ANGEL INVESTORS 19 (2009), http://www.basilpeters.com/Presentations/Exit_Strategies_for_Angel_Investors_20090415_Part_1.pdf.

[52] $1.5 billion would presumably be expected to generate $153 billion over a 20-year period.

[53] As a comparison, Intellectual Ventures has fewer than 800 employees; IBM has 427,000 employees.

[54] Intellectual Ventures' Licensing Overview Data Sheet for July, 2011 indicates they have collected $2 billion in licensing revenue. *Global Licensing Overview*, INTELLECTUAL VENTURES, http://www.intellectualventures.com/Libraries/General/Licensing_Overview_Data_Sheet_July.sflb.ashx (last visited Nov. 15, 2011).

¶62 Until recently, Intellectual Ventures used third parties to carry out much of its litigation activities. The technique is reminiscent of the historic practice known as privateering. Privateering was an extremely effective and troubling method of waging war, which was finally abolished by treaty in 1856.[55] It allowed governments to issue a "letter of marque and reprisal" to private parties, which allowed their ships to 1) capture any ships carrying the enemy's flag, 2) sell the ship and cargo at auction, and 3) keep the proceeds. Privateering allowed governments to enlist private parties in their aggressive activities so that the country could wage war with no impact on the treasury.

¶63 With Intellectual Ventures' version of privateering, the company sells a patent to a more aggressive licensing company, retaining a license for the Intellectual Ventures investors. The new owner is free to sue or license anyone not covered by the previous owner. The approach allows Intellectual Ventures to profit indirectly from the litigation without engaging in the expenditures or the risks of litigation.

¶64 Privateering could be a very effective way of nudging reluctant licensees in the following manner. An aggregator approaches a company, and demands that the company license one of the aggregator's patents. When the company demurs, the aggregator sells the patent to an aggressive third party, who sues for a far higher license value. The aggregate then approaches the company again, this time demanding that the company license a different one of the aggregator's patents. This time, the company may be much more compliant.

¶65 The approach could also be used to prod one's own licensees to toe the line, as speculated with the Xilinx circumstances above. Specifically, if the licensee must make payments to the aggregator based on the licensee's sales volume, and the aggregator believes that the licensee is being less than candid, the aggregator could sponsor an aggressive action by one of its proxies against a competitor of the licensee as a way to demonstrate potential consequences to its recalcitrant licensee. This approach would be reminiscent of the old Chinese adage of "kill the chicken to frighten the monkey."

¶66 While we do not know the deal terms, we did, however, find many examples of Intellectual Ventures using third-party proxies to litigate infringement claims against companies who appear to be likely licensing targets for large portions of Intellectual Ventures' portfolio. In particular, many of the patents sold by Intellectual Ventures have ended up in litigations brought by their new acquirers. Patents formerly owned by apparent Intellectual Ventures shells Viviana LLC,[56] Gisel Assets KG LLC,[57] Kwon Holdings Group LLC,[58] SF IP Properties 24 LLC,[59] Ferrara Ethereal LLC,[60] and Mission Abstract Data LLC[61] have been employed in patent infringement litigations respectively brought by the purchasers Picture Frame Innovations LLC,[62] Patent Harbor LLC,[63] Oasis Research

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[55] One of the authors has previously discussed the similarity between historic privateering and the activities of modern non-practicing entities. *See generally* Thomas L. Ewing, *Indirect Exploitation of Intellectual Property Rights by Corporations and Investors: IP Privateering & Modern Letters of Marque & Reprisal*, 4 HASTINGS SCI. & TECH. L.J. (forthcoming Winter 2011). The treaty abolishing privateering is the Declaration Respecting Maritime Law. Declaration Respecting Maritime Law, U.K.-France, April 16, 1856, *available at* http://www.icrc.org/ihl.nsf/INTRO/105?OpenDocument.

[56] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Viviana").

[57] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Gisel Assets").

[58] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Kwon Holdings").

[59] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "S.F. IP Properties 24").

[60] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Ferrara Ethereal").

[61] See USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Mission Abstract"), and subsequent assignment from Intellectual Ventures Audio Data LLC. Intellectual Ventures also continues to sell patents, such as the recent sale from Intellectual Ventures' Sinon Data LLC to Personal Voice Freedom LLC, a company apparently associated with Charles Eldering's Technology, Patents, and Licensing Inc.

[62] *See, e.g.*, Picture Frame Innovations, LLC v. Eastman Kodak Co., No. 1:2009-CV-04888 (N.D. Ill. filed Aug. 10, 2009). (Intellectual Ventures generally denies publicly having any involvement in this litigation. Nevertheless, we note that in the litigation, Kodak argued that Picture Frame lacked the right to sue, given rights in the patent retained by Viviana and/or Intellectual Ventures. Kodak's counsel termed the Picture Frame's agreement "a hunting license" in motions filed before the court. The case

LLC,[64] InMotion Imagery Technologies, LLC,[65] Webvention LLC,[66] and Mission Abstract Data LLC.[67] These litigations have been brought against companies such as Kodak, Hewlett Packard, Samsung and CBS Radio. Don Merino, senior vice president of licensing at Intellectual Ventures has said the sales were a logical step for the company and essentially denied that they related to privateering.[68] "I have enough of a set of assets where it just makes sense to start turning inventory," he told Dow Jones in a 2010 interview.[69] Selling expiring assets makes perfect business sense, of course. Nevertheless, the technique could be used, both to maximize aggressive litigation returns while attempting to stay at arm's length, as well as reinforcing the message to one's own license targets that cooperation is the better strategy.[70] In addition, when the extent of the patent portfolio is unclear, the technique could be used to hint to targets that the patent being offered for licensing is only one piece of a more extensive portfolio in that area.

¶67 In another example of using third parties for infringement litigation, Avistar Communications sold a group of 41 patents and applications to Intellectual Ventures Fund 61 in December of 2009 for $11 million.[71] In June of the following year, Intellectual Ventures re-sold these patents to Pragmatus.[72] Five months later, Pragmatus used three of these patents to sue Facebook, YouTube, LinkedIn, and PhotoBucket.com for patent infringement.

¶68 Pragmatus has also filed infringement lawsuits against the major United States cable companies, including Time Warner Cable, Cox Cable, Charter Communications, and Comcast, for infringement of two additional patents that were acquired from Intellectual Ventures prior to that lawsuit.[73] An Intellectual Ventures shell company had acquired these patents in 2007 as part of a larger patent lot purchased at an Ocean Tomo patent auction for $3.025 million.[74] While Intellectual Ventures probably does not own Pragmatus, it is not presently clear if Intellectual Ventures sold the patents for a lump sum cash payment or whether it is entitled to receive a percentage of the commercialization profits, including patent infringement damage awards and settlements. Deal terms comprising an upfront cash payment plus a revenue share seem fairly common in the patent marketplace generally.[75]

¶69 The activities described above are only some examples of Intellectual Ventures' transfers to third parties for the purpose of intellectual property rights exploitation through litigation and/or licensing that we came across.[76] We suspect there may be many more examples.

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settled in January of 2011 without rulings on Kodak's motions, and the terms of the settlement have not been made public.)

[63] *See, e.g.*, Patent Harbor, LLC v. LG Electronics, Inc., No. 6:2010-CV-00436 (E.D. Tex. filed Aug. 20, 2010).

[64] *See, e.g.*, Oasis Research, LLC v. Adrive, LLC, No. 4:2010-CV-00435 (E.D. Tex. filed Aug. 30, 2010).

[65] *See, e.g.*, InMotion Imagery Tech., LLC v. JVC Ams., Corp., No. 2:2010-CV-00474 (E.D. Tex. filed Nov. 10, 2010).

[66] *See, e.g.*, Webvention LLC v. Adidas Am. Inc., No. 2:2010-CV-00410 (E.D. Tex. filed Oct. 5, 2010).

[67] *See, e.g.*, Mission Abstract Data LLC v. Beasley Broad. Grp. Inc., No. 1:11-CV-00176-LPS (D. Del. filed Mar. 1, 2011). Note that a Rule 7.1 filing in *Mission Abstract Data* states that the sole owner of this plaintiff is Digimedia Holdings, LLC, a Delaware entity formed in January, 2011 just a few weeks prior to the assignment of patents from Intellectual Ventures Audio Data LLC. One could conclude that Mission Abstract Data has different owners now than it did prior to the transaction with Intellectual Ventures Audio Data LLC. Mission Abstract Data LLC was formed as a company in April, 2007.

[68] Stuart Weinberg, *Intellectual Ventures Patent Divestitures Continue*, DOW JONES NEWSWIRES, Feb. 24, 2010; *see also* Tom Ewing, *Introducing the Patent Privateers*, 45 INTELL. ASSET MGMT. 31, 36 (2011).

[69] Weinberg, *supra* note 68.

[70] While discussing the merits of litigation versus licensing, Peter Detkin said, "litigation is a highly inefficient way to do licensing. But let's not lose sight that litigation is just licensing by other means." Blumberg & Sydell, *supra* note 5.

[71] According to Avistar's SEC filings, the complete transaction involved 99 US and foreign patents and 26 pending applications worldwide. Avistar Commc'ns, Annual Report (Form 10-K), Exhibit 10.39 (Mar. 30, 2010).

[72] These are the only patents whose ownership has been recorded to Pragmatus.

[73] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5581479" and "5636139") (showing patent rights passing from Lot 20 to Intellectual Ventures to Pragmatus).

[74] *See Highlights of Ocean Tomo Spring 2007 Intellectual Property Auction*, WINSTON & STRAWN LLP (May 2007), http://www.winston.com/siteFiles/publications/Ocean_Tomo.pdf (disclosing that maximum lot price was $3.025 million); *see also supra* note 73.

[75] Peter Detkin said, "We sell for some amount of money up front, and we get some percentage of the royalty stream down the road that is generated from these assets." Blumberg & Sydell, *supra* note 5.

[76] *See, e.g.*, InMotion Imagery Tech., LLC v. Notorious Prods., Inc., No. 2:2011-CV-00415 (E.D. Tex. filed Sept. 15, 2011);

¶70 After primarily using third parties to file infringement litigations, Intellectual Ventures began suing companies directly in December 2010. On a single day, Intellectual Ventures filed three large patent litigations: one against a group of software security companies, one against DRAM and flash memory manufacturers, and one against field programmable gate array (FPGA) manufacturers.[77] The company has filed additional infringement suits against the parties in other jurisdictions including the International Trade Commission.

F. Other Mass Aggregators & Interconnections

¶71 Intellectual Ventures' success in raising capital has led to the creation of a number of smaller versions of the company. We will discuss a few such organizations briefly. It is unclear whether and to what extent Intellectual Ventures has partnered with these companies, but there are a number of striking connections and interactions among them. It is possible that Intellectual Ventures maintains ties to such other organizations as a way of lowering its exposure for various deals. In addition, with the amount of capital at Intellectual Ventures' disposal, it would make sense for the company to make some investments of its own.

1. Acacia Research Corporation

¶72 Acacia Research Corporation likely represents the first modern mass aggregator. Acacia is the largest publicly traded patent-licensing company, and has executed more than 1,000 license agreements across 104 of technology licensing programs.[78] The company's operating subsidiaries (a suite of limited liability companies) own or control the rights to more than 180 patent portfolios.[79] These portfolios relate to technologies from consumer electronics to automotive technologies and from medical devices to security technologies. Acacia's licensees include companies as diverse as 3M, Microsoft, Mitsubishi, Bloomberg, Nokia, and the Walt Disney Company.[80] Acacia recently began a turnkey licensing program for operating companies whose operations now include licensing more than 40,000 patents owned by Renesas, the world's third-largest semiconductor company.[81]

¶73 Acacia has been among the most litigious of the non-practicing entities. According to one report, the company and its subsidiaries have been plaintiffs in 280 patent lawsuits and defendants (presumably from declaratory judgment actions) in still more litigations.[82] Early Acacia licensing assertions related to a portfolio of patents relating to audio and video transmission and receiving systems, commonly known as audio-on-demand and video-on-demand.

InMotion Imagery Tech., LLC v. LFP Video Group, LLC, No. 2:2011-CV-00261 (E.D. Tex. filed May 19, 2011); Patent Harbor, LLC v. Dreamworks Animation, Inc., No. 6:2011-CV-00229 (E.D. Tex. filed May 9, 2011); Patent Harbor, LLC v. Twentieth Century Fox Home Entm't, LLC, No. 6:2010-CV-00607 (E.D. Tex. filed Nov. 16, 2010); Patent Harbor, LLC v. Audiovox Corp., No. 6:2010-CV-00361 (E.D. Tex. filed July 21, 2010); InMotion Imagery Tech., LLC v. Penthouse Digital Media Prods., Inc., No. 2:2010-CV-00084 (E.D. Tex. filed Mar. 10, 2010). We have not checked all of Intellectual Ventures' 11,000 US patents to see which ones have been sold to third parties, but we suspect that Intellectual Ventures has sold more patents than the ones identified here.

[77] Intellectual Ventures I LLC v. Canon Inc., No. 1:2011-CV-00792 (D. Del. filed Sept. 9, 2011); Intellectual Ventures I LLC v. Altera Corp., No. 1:2010-CV-01065 (D. Del. filed Dec. 8, 2010); Intellectual Ventures I LLC v. Hynix Semiconductor Inc., No. 1:2010-CV-01066 (D. Del. filed Dec. 8, 2010).

[78] *See* Acacia, Quarterly Report (Form 10-Q) (June 30, 2011), *available at* http://www.sec.gov/Archives/edgar/data/934549/000093454911000016/actg10q063011.htm.

[79] *Id.* (noting that "Acacia's only identifiable intangible assets at June 30, 2011 and December 31, 2010 are patents and patent rights. Patent-related accumulated amortization totaled $33,058,000 and $31,198,000 as of June 30, 2011 and December 31, 2010, respectively.").

[80] *Investment Profile*, ACACIA RESEARCH CORP. (October 2011), http://www.acaciatechnologies.com/docs/AcaciaFactSheet.pdf ((last visited Nov. 15, 2011).

[81] Press Release, Renesas Electronics And Acacia Research Enter Into Strategic Patent Licensing Alliance (Aug. 24, 2010), *available at* http://www.renesas.com/press/news/2010/news20100824.jsp. (Renesas is an entity formed by the merging of the semiconductor businesses of three Japanese companies—Hitachi, Mitsubishi, and NEC.)

[82] Daniel P. McCurdy, *Patent Trolls Erode the Foundation of the U.S. Patent System*, SCIENCE PROGRESS (Jan. 12, 2009), http://scienceprogress.org/2009/01/patent-trolls-erode-patent-system/.

¶74 Acacia[83] has been a public company for nearly 10 years, and counts among its investors household mutual fund managers like Oppenheimer Funds, Fidelity, and the Vanguard Group.[84] The company's stock has generally followed a steadily upward trend. From the beginnings of public trade in the ACTG stock on Dec. 17, 2002, the shares have risen from $1.85/share to $40.28/share by Sept. 27, 2011, representing a 36%/year rise over the 2002-2011 period.[85]

¶75 Acacia, which began operations in 1993, initially had two branches, one branch that made products and another branch that licensed patent rights, initially to V-chip technology.[86] Over time, the product-making side of the company, which produced a system for rapid creation of DNA and other compounds on a programmable semiconductor chip, has somewhat diminished in significance.

¶76 In August 2010, a wholly owned subsidiary of Acacia became the general partner of the Acacia Intellectual Property Fund, L.P. (the "Acacia IP Fund"), which was formed in August 2010. The Acacia IP Fund is authorized to raise up to $250 million.[87] The Acacia IP Fund aims to follow in the patent-licensing work that Acacia has pioneered.

2. Transpacific IP Ltd.

¶77 Transpacific IP Ltd. began operations in Taiwan in 2004 and has expanded to include offices in Hong Kong, Beijing, Tokyo and Singapore. Unlike the typical intellectual property aggregator, Transpacific seems to have kept a very low profile with a fairly nondescript website and only a few news stories about the company.

¶78 Despite its low profile, the company has amassed a portfolio of more than 3,000 US patents and applications.[88] The company has purchased these patents from Asian companies as well as US companies. It is possible that Transpacific and Intellectual Ventures conducted some sort of business arrangement with each other in late 2007 or early 2008, although the terms and the timing are unclear. During this time period, a number of Transpacific's patents seem to have shifted to new intellectual property attorneys who also appear to represent Intellectual Ventures for patent prosecution matters.

¶79 We initially found Transpacific while searching for Intellectual Ventures shell companies but concluded that Transpacific is probably not an Intellectual Ventures shell, given that it seems to have its own corporate identity. Transpacific's corporate structure seems to resemble that of Intellectual Ventures but in miniature, including a number of shell companies of its own.

¶80 Intellectual Ventures has purchased patents from Transpacific and its shells. For example, two of the patents Intellectual Ventures is using in its spate of direct infringement lawsuits filed at the end of 2010 were purchased from Transpacific.[89] The transaction was characterized as a merger in documents filed with the USPTO.

¶81 We noted above that Transpacific and Intellectual Ventures often share the same patent counsel. The sharing is so close that in one instance, a patent practitioner mistakenly filed a power of attorney signed by a Transpacific representative in the prosecution file for a seemingly unrelated Intellectual

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[83] Trading as ACTG on the NASDAQ exchange.

[84] *See Shareholders Major ACTG Acacia Research Corporation Shareholders*, MORNINGSTAR, http://investors.morningstar.com/ownership/shareholders-major.html?t=ACTG&region=USA&culture=en-us (click tab for "Institutions").

[85] This rise does not include any dividends paid during this period. *See* Acacia Research (ACTG) from Dec. 16, 2002 to Sept. 27, 2011, GOOGLE FINANCE, http://www.google.com/finance/historical?cid=681024&startdate=Jul%205%2C%202001&enddate=Oct%204%2C%202011&num=30&start=2220# (last visited Nov. 15, 2011).

[86] *See, e.g.*, *Acacia Technologies Licenses Digital Media Transmission Technology to NXTV*, ACACIA RESEARCH (Jan. 2, 2004), http://www.acaciaresearch.com/pr/010204NXTV.pdf.

[87] Acacia, Quarterly Report (Form 10-Q) (Nov. 1, 2010), *available at* http://biz.yahoo.com/e/101101/actg10-q.html.

[88] Plus an even greater number of non-US patents/applications.

[89] Intellectual Ventures I LLC v. Altera Corp., No. 1:2010-CV-01065 (D. Del. filed Dec. 8, 2010); Intellectual Ventures I LLC v. Hynix Semiconductor Inc., No. 1:2010-CV-01066 (D. Del. filed Dec. 8, 2010); USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "6260087" and "5687325") (showing Transpacific's involvement in the assignment of these patents to Intellectual Ventures).

Ventures shell company, a mistake one would not expect to see with completely unrelated portfolios.[90]

3. RPX

¶82 John Amster founded RPX in September 2008. Just prior to founding the company, Mr. Amster was Intellectual Ventures' general manager of strategic acquisitions and vice president of licensing. RPX's business model is to buy potentially problematic trolling patents and then license those patents to its members. Thus, the company's members can head off the problems of intellectual property infringement litigation for a fraction of the cost. The company has grown rapidly, with annual revenues now in excess of $65 million. RPX held its initial public stock offering in 2011.

¶83 It is possible that some of Intellectual Ventures' investors wanted to participate in an aggregator that overtly operated as a patent defense fund, and a fund limited more to areas directly related to its investors' businesses and interests, and that RPX was formed to fill this market need. The patents that RPX acquires tend to be somewhat more along the lines of nuisance value patent than the patents that Intellectual Ventures acquires, and it is possible that the two companies may not often find themselves competing for the purchase of a given patent. At present, RPX has signed up approximately 65 technology companies, about half of which have either sold patents to Intellectual Ventures or have invested in Intellectual Ventures.[91]

¶84 RPX has spent over $300 million acquiring patents and controls them via several funds, such as RPX-LV Acquisition LLC and RPX-NW Acquisition LLC. However, while RPX licenses or buys patents for its current members, it does not always retain rights to these patents and acknowledges that the patents could later be used by other potentially litigious owners to bring suits against companies that were not members of RPX at the time in which it engaged in those licenses.[92] RPX subscribers apparently do not enjoy a perpetual license to patents owned by the firm until after a three-year licensing period, which may inhibit a member from leaving RPX as patents acquired inside the three-year window may become unlicensed.[93]

4. Round Rock Research

¶85 Round Rock Research, LLC holds a portfolio of more than 3,400 US patents. All of these patents were acquired from Micron Technology in December 2009 and collectively represent roughly 20% of Micron's total patent assets. The company was incorporated in Delaware nearly a year before it was publicly announced that John Desmarais, a prominent US patent litigator, would lead the company.[94] It was also formed nearly a year before the 3,400 patents were transferred from Micron to Round Rock.

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[90] The power of attorney filed for US Patent No. 7,427,742 on Sept. 2, 2010 is for Tang Sung Capital, a TransPacific IP shell, when the correct owner of the patent is Intellectual Ventures' shell Buvane Holdings. A power of attorney for Buvane was filed in the case on Jan. 11, 2011. We note that nothing in the assignment history for the '742 patent indicates that it was ever owned by a TransPacific shell. In contrast, IV has done numerous transactions with Cypress Semiconductor, the patent's previous owner. Thus, it would seem that the patent prosecutor was simply confused about which power of attorney paper to file, a mistake that does not often arise in completely unrelated portfolios.

[91] RPX Corp., Final Prospectus (Form 424B4) (Sep. 16, 2011).

[92] In other words, if I am a company and I am worried about a troublesome patent that could be used against me, RPX can buy the patent and transfer the patent to a troll reserving a license for all RPX investors. The troll is then free to go after non-RPX investors, presumably their competitors. According to RPX, "in nearly a third of our transactions, we acquire rights only for our clients, and we have already begun to sell patents. Those joining later may not get the full benefit of licensing to our broad portfolio that our earlier clients enjoy." *FAQs*, RPX CORP., http://www.rpxcorp.com/index.cfm?pageid=23 (last visited Nov. 15, 2011).

[93] *See* Order No. 40, Initial Determination Granting Joint Motion to Terminate Investigation as to Respondent Performance Designed Products LLC, 2011 WL 4438273 (U.S. Int'l Trade Comm'n, 2011) (Inv. No. 337-TA-773) (Appendix A contains a redacted version of a template RPX license, and the language above is found in Section 2.1(c).); Order No. 11, Initial Determination Granting Joint Motion to Terminate Investigation as to Vivitek, 2011 WL 2677777 (U.S. Inter'l Trade Comm'n, 2011) (Inv. No. 337-TA-773) (Appendix A contains another redacted version of a template RPX license, and the language above is also found in Section 2.1(c)).

[94] After hearing the definition of "privateer," Desmarais conceded that he was one, adding, "I've been called worse things." John Desmarais, Round Rock Research, Comment made during the privateering portion of a panel discussion entitled "The Developing NPE Market" at the Intellectual Property Business Congress in San Francisco (June 20, 2011). Just prior to this

¶86 Micron has not made a formal filing with the SEC regarding the large patent sale to Round Rock or issued a press release about it. Curiously, Micron's annual disclosures to the SEC from 2007-2010 report a consistent figure for the number of patents held by the company and show no drop in the number of patents owned. Nevertheless, in litigation filings, Round Rock says that it has no parent company and that no publicly held company owns 10% or more of its stock. This has raised questions as to who owns Round Rock and/or who financed the sale.[95]

¶87 Desmarais is the only public face for Round Rock.[96] One could estimate that the value of 3,400 Micron patents probably approaches or exceeds a hefty fraction of $1 billion,[97] which is seemingly a larger sum than even a successful patent litigator would likely be able to muster from his own resources.

¶88 Suggesting a connection between Round Rock and Intellectual Ventures would be speculation, but we do note an interesting number of intersections between the people involved in each entity. For example, Desmarais is the litigator for the patent infringement lawsuit that Intellectual Ventures has filed against the field programmable gate array manufacturers. He is also the litigator for one of the Pragmatus cases filed using patents formerly owned by Intellectual Ventures, as well as the litigator for Oasis Research, a possible Intellectual Ventures privateering operation. Melissa Finocchio, Intellectual Ventures' chief litigation counsel, was formerly the head of the litigation department at Micron. In addition, Samsung has reportedly signed separate licensing agreements in 2010 with Round Rock, Micron Technology, and Intellectual Ventures.[98]

II. POTENTIAL POSITIVE EFFECTS

¶89 We will begin by examining the potential positive effects that mass aggregators could bring. What opportunities are presented or failures are remedied by their appearance in the market? What positive implications do these effects have for innovation or for individual players in the world of invention?

A. The Forgotten Inventor

¶90 In a perfect world, there might be no role for mass aggregators. An inventor, incentivized by the rewards available through the patent system, creates an invention bringing forth the idea for all to see and benefit from. The inventor either manufactures a product resulting from the invention or licenses the invention to others for manufacture. Those who want to enter a particular commercial space, thoroughly scour the record of patents granted to determine whether they must obtain rights from any patent holders. If rights are needed, the parties willingly negotiate a license and the product goes forward. At the end of the day, inventors are rewarded for the innovations they bring to the field, and society benefits from the introduction of new products and ideas.

¶91 The patent system, however, is far from perfect, and the pathway from invention to patent to product is unlikely to be so simple, direct, or focused on patent law. Ideas and information can permeate intellectual exchanges, particularly in fields where academic research plays an important

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comment, Desmarais and the other attendees had heard a discussion of privateering that included a Powerpoint slide that defined "privateering" as "The assertion of IPRs by an entity (the privateer), typically in the form of an NPE, against a target company for the direct benefit of the privateer and the consequential benefit of a sponsor company, where the consequential benefits exceed the direct benefits."

[95] *See, e.g.*, Round Rock Research v. HTC Corp., No. 1:10-CV-00840-UNA (D. Del. filed Oct. 10, 2010).

[96] Desmarais, *supra* note 94.

[97] The Nortel patent auction was completed on July 1, 2011 for $4.5 billion and comprised a comparable number of patents albeit in a different technical subject. Nortel Networks Corp., Current Report (Form 8-K) (July 1, 2011), *available at* http://www.sec.gov/Archives/edgar/data/72911/000119312511179790/d8k.htm.

[98] Round Rock is to some extent the successor to Keystone Technology Solutions, LLC. Keystone was closely tethered to Micron and may well have been wholly owned by Micron. Many of Round Rock's patent assets began as Micron properties, were transferred to Keystone, transferred back to Micron, and then transferred to Round Rock. Keystone does not appear to have had any employees who were not also Micron employees.

role. Such ideas may skip lightly along a discussion pipeline, moving around unmoored from their intellectual property tethers. Producers may incorporate ideas unconsciously, failing to recognize that the inspiration or credit belongs to someone else. In another scenario, a producer develops the idea through independent creation often completely unaware that someone else was technically "first" with the idea but maybe not with the product. Numerous researchers and inventors may be working on similar issues at the same time, as they try to push through the barriers at the edge of a field. A great invention may fail (initially) as a commercial product because other, unrelated but nevertheless enabling technologies, are themselves too immature to support a successful commercial product. Later, when the enabling technologies mature, the later innovators may be completely unaware that someone else pioneered similar products but failed commercially.[99]

¶92 In theory, the producer should be able to search for relevant patents and arrange necessary licensing, but in the real world, this description is no more than a convenient myth. Many patent attorneys actively counsel their clients not to look at issued patents for fear of their client being put on notice, which risks the beginnings of a damage calculation plus the possibility of additional damages due to willfulness;[100] many corporations have adopted similar firm-wide directives. Limited resources at the Patent and Trademark Office sometimes thwart patent examiners from screening out bad patents and weak claims. With roughly 2 million active US patents,[101] identifying all potentially relevant patents is tremendously challenging. Moreover, it is difficult, if not impossible, to know in advance how broadly a patent will be interpreted and whether a particular patent claim will be upheld.[102] Much of this uncertainty stems from the fact that the metes and bounds of the patent, when enforced, are determined by the court through the process of claim construction, a process that is notoriously unpredictable.[103] In a classic example of the problem, two recent litigations happening at the same time within the same district court produced different constructions of the same claim term.[104]

¶93 Even when a producer has diligently acquired all the licenses that appear to be needed, a new party may appear. In a problem known as patent stacking, producers find themselves paying out ever-greater amounts of their revenue to a theoretically unlimited number of patent holders. There is no law, rule, or guideline that necessarily limits the aggregate number of intellectual property licenses for a product to a fixed percentage of revenue, and it is theoretically possible for the collective amount of royalties to exceed 100% of revenue.[105]

¶94 In short, the patent system works just fine for generating patents but stumbles in rights licensing.[106] Some producers take licenses from aggressive licensors whose patents may not be

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[99] One example of this phenomenon played out in *NTP v. RIM*, 418 F.3d 1282 (Fed. Cir. 2005).

[100] 35 U.S.C. § 284 (2011) ("[T]he court may increase the damages up to three times the amount found or assessed.").

[101] According to the World Intellectual Property Organization, there were 1,930,631 active patents in the United States in 2009. *Statistics on Patents*, WORLD INTELLECTUAL PROPERTY ORGANIZATION, http://www.wipo.int/ipstats/en/statistics/patents/ (last visited Nov. 15, 2011).

[102] John M. Golden, *Construing Patent Claims According to Their "Interpretive Community": A Call for an Attorney-Plus-Artisan Perspective*, 21 HARV. J.L. & TECH. 321, 324-25 (2008); Amber H. Rovner, *Canons of Patent Claim Construction*, 873 PLI/PAT 85, 130 (2006) ("If one thing is certain . . . it is that claim construction is inherently uncertain.") (internal quotation marks omitted); ROBIN FELDMAN, RETHINKING PATENT RIGHTS (forthcoming 2012).

[103] For commentary on the uncertainty of claim construction, and thereby claim scope, see, e.g., Gretchen A. Bender, *Uncertainty and Unpredictability in Patent Litigation: The Time is Ripe for a Consistent Claim Construction Methodology*, 8 J. INTELL. PROP. L. 175, 203-07 (2001) (noting that the Federal Circuit changed lower courts' claim interpretations in about 40% of cases between 1996 and 2001, which indicates a large degree of uncertainty for inventors and practitioners); Matthew Sag & Kurt Rohde, *Patent Reform and Differential Impact*, 8 MINN. J. L. SCI. & TECH. 33-35 (2007) (noting that the Federal Circuit's failure to adopt a consistent methodology for claim construction has created "significant doctrinal instability and confusion in the lower courts"); R. Polk Wagner & Lee Petherbridge, *Is the Federal Circuit Succeeding? An Empirical Assessment of Judicial Performance*, 152 U. PA. L . REV. 1105, 1161-63 (2004) (analyzing the Federal Circuit's decisions involving claim interpretation from 1996 to 2002 and finding a pattern of panel-dependent outcomes, as well as variability in the choice of methods used in claim construction by individual judges). *See also* Jeffrey A. Lefstin, *The Formal Structure of Patent Law and the Limits of Enablement,* 23 BERKELEY TECH. L.J. 1141, 1168 (2008) (offering that, due to the formalist structure of patent law, all claims are infinite in scope).

[104] *See* Arlington Indus. v. Bridgeport Fittings, Inc., 632 F.3d 1246, 1248 (Fed. Cir. 2011).

[105] Eleven patent holders each entitled to 10% of gross revenue would amount to 110% of revenue.

[106] And may stumble even further in fulfilling its ultimate *raison d'etre* in society.

infringed while other producers play games to avoid licensing rights from parties whose patents probably are infringed. It's a hard knock life for the small inventor and the forthright producer.[107]

¶95 Even when the proper parties do identify each other, information gaps, valuation difficulties, and other transaction obstacles may prevent consummation of a deal. Plagued by boundless uncertainty, insufficient information, and high transaction costs, the true patent system looks nothing like the idealized version.[108] Imagine a real property market where almost no comparable information is available. The sales price for the house next door is unavailable as is the sale price for the house two blocks away with an identical floor plan.[109]

¶96 In this world of imperfections, mass aggregators may provide a market mechanism for the forgotten inventor whose innovations are in use every day but who remains uncompensated. By creating a market for monetization of patents, mass aggregators might make it possible for individual inventors to find others who have the capital and expertise to identify and pursue claims against those who are producing products that infringe.

¶97 Compensating existing inventors does not increase the store of available products or necessarily fund further innovation. One could argue, nevertheless, that a market for patent monetization benefits innovation beyond simply providing cash for the patent holder. Inventors as a whole may be more likely to bring forth new inventions if the mechanisms for reward operate more effectively than the roulette wheel that inventors face today.[110]

B. The Middleman

¶98 In addition to the possibility of compensating forgotten inventors, one could argue that mass aggregators serve as a form of efficient middle man, a market intermediary who helps patents find their way to those who would exploit them to create new products. Inventors may not have the capital, expertise, or other necessary capacity to manufacture products. One could see the market for patent monetization as a matching system moving patents to those with proper production capacity.

¶99 Middleman systems do have some precedence in the world of innovation finance. Venture Capitalists have been known to set up incubators to help those with ideas bring them to fruition. The market for patent monetization could be another variant on the theme. One possibly stark difference, however, is that the patent aggregators work purely with patent legal rights and not with technology licenses. Similarly, they do not tend to push the direction of new creations but instead scoop up creations in areas of interest to them, which tend to be the "hot" technology areas of today and not the beneficial technologies of tomorrow. In short, there does not seem to be a technology aggregator who works to facilitate the spread of otherwise unknown information and know-how as opposed to spreading legal rights whose boundaries are set forth on publicly available websites and patent libraries.

¶100 As described above, Intellectual Ventures, if not the other mass aggregators, does have a laboratory set up like an incubator.[111] The problem with the notion of mass aggregators as middle men connecting innovators with production capital and capacity, is that for the most part, they do not seem operate that way. Very little mass aggregator activity appears to be of the middleman variety. Most activity seems to be focused on the interaction of existing patents with existing products. In short, the mass aggregators are not "technology push" in the sense of directing the

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[107] CHARLES STROUSE & MARTIN CHARNIN, *It's a Hard Knock Life*, *on* ANNIE (1977).

[108] Dan L. Burk & Mark A. Lemley, *Quantum Patent Mechanics*, 9 LEWIS & CLARK L. REV. 29, 53 (2005); Joshua S. Gans, David H. H. Hsu & Scott Stern, *The Impact of Uncertain Intellectual Property Rights on the Market for Ideas: Evidence from Patent Grant Delays*, 54 MGMT. SCI. 986-89 (2008), *available at* http://www.law.northwestern.edu/academics/searle/papers/Stern.pdf; Anne Kelley, *Practicing in the Patent Marketplace*, 78 U. CHI. L. REV. 115, 130 (2011).

[109] *See, e.g.*, Nathan Myhrvold & Mark Lemley, *How to Make a Patent Market*, 36 HOFSTRA L. REV. 257 (2007).

[110] We will discuss the 26-year "time lag" of patent exploitation and "To Serve Man" below.

[111] The lab, however, is a mere 27,500 square feet and tends to do little more than contract applied research in anti-malarial devices for the Bill and Melinda Gates Foundation. *Our Inventions*, INTELLECTUAL VENTURES, http://www.intellectualventures.com/OurInventions.aspx (last visited Nov. 15, 2011).

spark of creation for tomorrow's new products. Rather, their activities follow the pattern of scanning the horizon to pick out today's hot technology areas and then finding and securing orphaned and non-aligned patents that can be used to extract a return from today's products.

¶101 In theory, a market for patent monetization could operate as a type of exchange, where buyers and sellers can meet with lower transaction costs. Exchange markets, however, do invite arbitration and speculation, which does not always have a stabilizing economic influence. The speculative effects are multiplied by the extreme information asymmetries in the intellectual property rights markets in which some parties have access to extensive market information and other parties have little more than a gut feel. For this and other reasons, exchange systems tend to have a fairly extensive degree of regulation and supervision.

C. The Litigation Defense Fund

¶102 The most likely positive role for mass aggregators may be as a Litigation Defense Fund. The patent world is characterized by extensive bargaining.[112] Of particular relevance to the aggregator scenario, a company faced with an infringement claim may look at its own portfolio to see what patents can be asserted against the entity that is threatening them. In other words, suppose you sue me for patent infringement. If I have an extensive patent portfolio and can threaten to assert them against your products, you may be more willing to settle your infringement claim against me, or we may be able to work out a cross-licensing arrangement. I am much more vulnerable to infringement suits, both ones that are strong and ones that are weak, if I do not have appropriate patents to bargain with.

¶103 Wouldn't it be nice if one could find precisely the patent one needs at just the right moment? Mass aggregators seem to be organized to provide exactly that service. Recall for example, the Verizon scenario described above, in which Verizon purchased patents from the Intellectual Ventures portfolio to assert against TiVo as a counterclaim in TiVo's infringement litigation against Verizon.[113] This is reminiscent of the Just-In-Time inventory strategy, in which materials are purchased and products are made only as they are actually needed to meet customer orders.[114]

¶104 One can think of mass aggregators as allowing Just-In-Time patenting. When a company is sued for infringement or must enter into a negotiation to acquire rights from another entity, the company can shop for and acquire precisely the patents that could present a counter threat to the opposing party. When the litigation is complete, the patent can be returned. This type of strategy could ensure that a company has the comfortable freedom to operate vis-à-vis its competitors without worrying about patent suits that are the scourge of the modern patent world.[115]

¶105 In addition to the Verizon example, several other companies have successfully used this tactic to mitigate lawsuits brought against them.[116] Hewlett Packard, for example, filed an infringement suit against Acer in March 2007.[117] Acer, a Taiwanese company, subsequently bought several patents from a Taiwanese research organization,[118] and then asserted the patents in a countersuit against HP.[119] The lawsuit was settled by mid-2008.[120]

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[112] FELDMAN, *supra* note 102 (arguing that patents do not grant clear, definitive rights but rather serve as the beginning of the bargaining over the contours of those rights).

[113] See discussion at text accompanying *supra* note 46.

[114] *Just in Time (JIT) Manufacturing and Inventory Control System*, ACCOUNTING FOR MANAGEMENT, http://www.accountingformanagement.com/just_in_time.htm (last visited Nov. 15, 2011).

[115] Renting patents will do little to discourage lawsuits by non-practicing entities, however.

[116] These examples are discussed in Ewing, *supra* note 68.

[117] Hewlett-Packard Co. v. Acer, Inc., No. 02-07-CV-103-CE, 2008 U.S. Dist. LEXIS 25952, at *3 (E.D. Tex. Mar. 31, 2008).

[118] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5977626", "6188132", "6788257", "6280021") (showing execution dates to Acer in September and July of 2007); *What is ITRI?*, INDUS. TECH. RESEARCH INST., http://www.itri.org.tw/eng/about/article.asp?RootNodeId=010&NodeId=0101 (last visited Dec. 5, 2011).

[119] Erica Ogg, *Acer Sues HP Again Over Patents*, CNET NEWS BLOG (Oct. 31, 2007, 3:40 PM PDT), http://news.cnet.com/8301-10784_3-9808687-7.html.

¶106 Similarly, Samsung defended itself in a patent infringement case by buying patents and then using them in a countersuit against Matsushita.[121] Over the course of the litigation, Samsung also filed counterclaims related to patents that it had previously obtained from a German government agency.[122]

¶107 It would be difficult to overestimate the value of having an effective response to the problem of modern patent litigation. It is tremendously challenging, if not impossible, to determine whether an asserted patent is valid and whether it applies to the product it is being asserted against. Patent litigation is lengthy and expensive, and it is tough to predict the outcome of any individual case. When a company is sued for infringement, the rational choice may be to pay the person bringing the claim, even if the claim is quite weak. If a settlement cannot be reached, a company must slog through years of exhausting litigation that can drain the company's finances, distract the company's executives, and generate negative publicity. The ability to acquire the perfect weapon, tailored to a particular patent litigation, just at the time it is needed would be of great value to modern companies.

¶108 Mass aggregators may offer a secondary function that can also help with litigation woes. Just-in-Time patenting will not necessarily help in fending off trolls. Trolls, by definition, are non-practicing entities. Thus, trolls do not have any products that might be vulnerable to threats from other patents. There may be complicated strategies, in which patents can be used through third parties to interfere with a particular troll's activities, but in general, Just-in-Time patenting is not a troll solution.

¶109 Mass aggregators, however, can impede activities by non-practicing entities in other ways. Large patent pools with vast capital resources can deal with trolls by sopping up their potential patent inventory when it appears on the market. In other words, an aggregator on behalf of its subscriber operating companies may compete with trolls by buying up patents that could possibly used against any of them if they appear in an open market. The companies still incur costs to respond to the troll problem, but it may be cheaper to buy patents then to buy off trolls, and it is certainly less distracting and aggravating for company executives. In addition, the anti-troll patent acquisition activity is outsourced to a third party—the mass aggregator—who may gain experience as a repeat player in the market for patent monetization, allowing the company to focus on its core activity of production.[123]

¶110 Similarly, the aggregator may approach a non-practicing entity that has already sued or threatened to sue members of the aggregator's anti-troll club and simply buy the patent and or secure licenses. This process may provide settlement for the operating company members at lower cost than they would spend litigating (and settling) individual lawsuits, although one could question whether it constitutes horizontal collusion by competitors.

¶111 This process may also be good for the aggregator's business. When the non-practicing entity has also sued companies who are not members of the aggregator, the aggregator may also purchase additional licenses or make other arrangements with the non-practicing entity that make "joining the club" attractive for the non-member operating companies. Of course, this process does not really break the non-practicing entity's business model, and in some sense provides it with greater certainty of an ultimate deal, albeit possibly at a lower profit.[124]

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[120] Press Release, Hewlett Packard, HP and Acer Settle Patent Litigation (June 8, 2008), *available at* http://www.hp.com/hpinfo/newsroom/press/2008/080608a.html.

[121] Brief of Plaintiff at 5, Matushita v. Samsung, No. 02-336, 2005 U.S. Dist. Ct. Motions LEXIS 32374 (D.N.J. 2005); Eric Hellweg, *SonicBlue's Bankruptcy: Big Media Wins*, CNN MONEY (Mar. 27, 2003), http://money.cnn.com/2003/03/27/technology/techinvestor/hellweg/index.htm; USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5481693") (showing transfer of the '693 patent to Samsung from SonicBlue on Nov. 14, 2002).

[122] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Patent Number" for "5181209") (purchased from the German aerospace research center now known as Deutsches Zentrum für Luft-Und Raumfahrt E.V.).

[123] One philosophical conundrum with this strategy, however, is whether the mass aggregator expressly abandons the purchased patents, thus eliminating them forever as a threat to anyone, or whether the mass aggregator subsequently solves the "free rider" problem by "trolling" against non-aggregator subscribers using the purchased patents. In the first approach, the aggregator performs a community service at the expense of its subscribers and financial backers; in the second approach, the aggregator essentially becomes a troll itself.

[124] This may encourage the non-practicing entity to enter a "volume business" on a lower revenue per unit transacted basis,

¶112 This particular anti-troll approach also has a pleasant side effect. As the aggregator amasses patents, those patents can be used as a hammer to bash competitors who haven't joined the club, and the income can be used to defray the costs of acquisition.

¶113 Intellectual Ventures has taken a particularly forward-looking approach to the activity. By signing up universities, research labs, and inventors, Intellectual Ventures has optioned future patentable ideas prior to their conception. In other words, they are not just swatting the pesky mosquitos; they are actually draining the swamp. Of course, this analogy assumes that "the swamp," also known as a "biologically diverse wetland," is a bad thing that all parties agree should be drained, filled in, paved over, and forgotten.

¶114 The value of this litigation defense and anti-troll activity may explain why some of the largest market incumbent technology companies are listed as early investors and participants in mass aggregators. These companies may find the possibility of a defense fund tantalizingly appealing, even if they would be more reluctant to join troll-like activity. In addition, the pressure of joining a mass aggregator becomes greater across time. As your fellow technology companies sign up, it becomes harder to resist, even if it falls outside of corporate policies or the goals to which one might otherwise aspire. Business is a form of communication, and market actors tend to replicate the behavior of others.

¶115 If the model works well enough, it could become more than Just-In-Time patenting. Over time, a company may not have to do much more than rattle the defensive sword against a competitor. The largest market incumbents presumably have the greatest potential access to the Just-in-Time patents. When one has an insurmountable weapon, there is no need to use the weapon.[125] In this context, as companies demonstrate that they have access to any sort of patent for use against any sort of company via access to a pool, the amount of producer v. producer patent litigation could potentially be reduced as prospective litigants contemplate the potential impact of a new, unknown weapon that the well-heeled market incumbent could assert against them by virtue of its platinum club card. Thus, participating in a patent mass aggregator becomes a form of insurance. One may never need it, but it is there if necessary. Like any doomsday device, however, it needs to be advertised and concretized with strategic demonstrations of its potential power.[126]

¶116 Finally, in thinking about the troll activity that mass aggregators could potentially counter, one must be careful that the cure is not worse than the disease. As patent scholars Meurer and Bessen point out in their book, troll activity accounts for only a small part of the costs of the patent system.[127] If the potential harms from this anti-troll approach are too great, the solution could be worse than the problem. We will turn to considering the potential harms from mass aggregation activity.

III. POTENTIAL HARMS

¶117 If the patent system worked efficiently, one might be able to anticipate and measure the types of positive effects described above. The patent world, however, is far from perfect. In fact the same market imperfections that fuel the trolling phenomenon are likely to prevent the market for patent monetization from offering the positive effects contemplated and to create harm instead. The aspects of the patent system that ensure high transaction costs, encourage nuisance litigation, and create

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e.g., mass production.

[125] But then again, maybe not. In the period immediately following the Second World War, the US government assumed that it could fight all future wars using nuclear weapons and consequently wouldn't need nearly as many soldiers, sailors, and marines. The armed services competed fiercely over control of nuclear weapons because the government was considering eliminating at least one of them. But when the Korean War came along, the strategists soon realized that some wars would be fought on scales that would not justify the use of nuclear weapons, and consequently, conventional weapons became much more attractive again and each of the separate services thrived.

[126] *See, e.g.*, DR. STRANGELOVE, OR: HOW I LEARNED TO STOP WORRYING AND LOVE THE BOMB (Columbia Pictures 1964). The problem with the Soviet "doomsday device" was that they had not told the Americans they had developed it.

[127] JAMES BESSEN & MICHAEL J. MEURER, PATENT FAILURE: HOW JUDGES, BUREAUCRATS, AND LAWYERS PUT INNOVATORS AT RISK 160 (2008).

incentives for inefficient behaviors will carry over to the new patent system with the addition of aggregators.

¶118 The overarching problem is that it is difficult, if not impossible, to get a quick and inexpensive answer in a patent dispute. Given the difficulty of translating the abstract language of a patent from one context to another, the lack of predictability in patent decisions, and other uncertainties in patent law, it is difficult to tell whether a particular patent claim will be upheld and whether a particular product will be found to infringe a given claim.[128] No matter what the trial court decides, litigants have fairly good chances that the Court of Appeals for the Federal Circuit may find differently. The cost of finding an answer to the question is quite high in terms of both dollars and time. Patent litigation is lengthy and expensive, so the cost of testing whether a particular threat of infringement has merit will be high. The cost is so high, in fact, that testing a threat can easily exceed the cost of settlement, and parties may rationally choose to pay a complainant even when the claims seem quite weak.

¶119 In calculating the potential costs of litigating an infringement claim, a company must also include the risk that damages will be assessed. Current doctrines on measuring damages from patent infringement can result in awards that have a devastating impact on a company. Suppose a company makes a complicated, multi-component product. If one component of the company's product is found to infringe someone else's patent, the damages may far exceed the value of that component to the overall product.[129] The greatest risk from an infringement suit, however, is that the company's product will be simply shut down. Although the Supreme Court recently ruled that patent holders are not automatically entitled to an injunction after proving that someone is infringing the patent, injunctions are still frequently granted.[130] Having to shut down the entire product could be devastating, even if the product could eventually be reconfigured to avoid infringing. In short, the problem is not just the high costs of getting an answer but also the risks associated with getting an adverse answer. These are not bets that the typical commercial actor wants to accept, and who may therefore want to make the problem go away by settlement.

¶120 Such tremendously high transaction costs have the effect of incentivizing suboptimal behavior from all actors. For example, patent holders have an incentive to assert marginal patents in the hopes of getting the company to settle for an amount less than it would cost the company to litigate. With insufficient validity and valuation information, some patent holders asserting valid patents that are being infringed may seek damages far in excess of the patent's value. Conversely, operating companies have an incentive to utilize the power that comes from their ability to employ better legal counsel in these complex interactions, even when the operating companies suspect that they are infringing a valid patent.

¶121 Even perfectly honest and diligent operating companies are caught in the maelstrom. With the millions of active patents on record, each of which may have dozens or even hundreds of claims, combined with the difficulty of knowing how they will be interpreted, it is impossible to know with certainty that one's product will not infringe someone else's patent claims. In this environment, lawyers may encourage company executives not to search, to avoid the greater damages available from willful infringement. In a similar vein, patent counsel will instruct inventors not to search extensively for prior art, because a patent applicant need only disclose prior art that the applicant knows about.

¶122 In short, the patent system is plagued by a vast supply of patents, many of which may be quite weak. The present system for granting patents does not overtly consider the overall patent supply in

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[128] For a discussion of the uncertainty of language and other uncertainties inherent in patent law, see FELDMAN, *supra* note 102.

[129] Mark A. Lemley, *Distinguishing Lost Profits from Reasonable Royalties*, 51 WM. & MARY L. REV. 655, 664 (2009); Mark A. Lemley & Carl Shapiro, *Patent Holdup and Royalty Stacking*, 85 TEX. L. REV. 1991, 2003 (2007); FELDMAN, *supra* note 102.

[130] eBay v. MercExchange, LLC, 547 U.S. 388 (2006); *see also* Lily Lim & Sarah E. Craven, *Injunctions Enjoined; Remedies Restructured*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 787, 798 (2009) (stating that injunctions are still granted in 72% of cases after *eBay v. MercExchange*).

a given technical area in granting new patents.[131] In addition, regardless of whether the patent is weak or strong, the range of each patent cannot be determined without a large investment of time and effort, and any pre-litigation predictions about the scope of a patent may prove incredibly wrong.

¶123 Mass aggregation will not alter the high transaction costs of obtaining an answer within the system, the vast supply of patents, or the incentive structures of the parties involved. These characteristics will persist regardless of whether the patent holder is an original inventor, a traditional troll, or a mass aggregator.

¶124 One can think of mass aggregation as the patent system on speed.[132] More bargaining and swordplay will take place among a company producing products, its competitors, and non-practicing patent holders, but some of the parties involved in this gamesmanship will be larger and have more sophisticated weaponry. Trolling activity will occur, but it will be carried out more often and by larger trolling entities. Without changing the basic incentive structures of the patent system, mass aggregation will be no better than the current patent system at rewarding the deserving inventor and greasing the wheels of innovation while protecting diligent producing companies. One could even argue that the mass aggregation activities will act as a multiplier for the worst aspects of the present system—deserving but low capitalized patentees will be further marginalized while product companies are forced to license greater numbers of marginal patents.

¶125 If mass aggregation were merely no better than the current system, one might not be too concerned over about its appearance. Unfortunately however, while mass aggregators are likely to create harms to innovation as a whole.

A. A Tax on Production

¶126 In our vastly imperfect patent system in which transaction costs are substantial, information is difficult to obtain and is asymmetrically distributed, and the cost of testing the validity of a patent may be quite high, mass aggregators will be able to extract value through patents regardless of the strength of the patents they are asserting. The value ultimately would have to come through payments from manufacturers of current products, and the process would serve as a tax on current products.

¶127 Such a tax on current production may serve to decrease future production and/or operate as a cost passed on to consumers. When costs of production increase, potential manufacturers must factor that cost into the decision of whether to produce. As the price point for rational production rises, fewer products will cross the threshold at which it is worth introducing the product.

¶128 From another perspective, the tax on production also could end up reducing R&D. Although tracing spending decisions in a single firm is complex, at a very simple level, a company that must spend more on current production costs will have less to spend on research and development of new products. Many companies have historically funded their R&D from the same source that pays the company's licenses.[133]

¶129 From either perspective, a tax on production is likely to have the effect of reducing genuine product innovation. Thus, the products and services that are being created with the introduction of the market for patent monetization may not be ones that society wishes to encourage.

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[131] The technical distance between issued patent claims in crowded fields may be lessened, leading to patents with narrower claims, but the Patent Office has yet to declare that it is even "difficult" to obtain a new patent in any given area, and no one has demonstrated that new patents in crowded areas are impossible to obtain. The patent prosecution system essentially functions as a bargaining process between the Patent Office and its "customers," the patent applicants.

[132] More than six years ago, at the very beginning of its massive patent acquisitions, Intellectual Ventures was described as "a troll on steroids." Lisa Lerer, *Going Once*, LAW.COM CORPORATE COUNSEL (Nov. 1, 2005), http://www.law.com/jsp/cc/PubArticleFriendlyCC.jsp?id=900005439584.

[133] This has led to what is sometimes known as "the two-dollar swing." For every royalty dollar exchanged between a company and a competitor, a two-dollar differential is created between them if inbound and outbound licensing fees are tied to R&D funding.

B. Opportunities for Anticompetitive Conduct

¶130 Certain characteristics of the market for patent monetization make it an excellent vehicle for anticompetitive conduct. The market for patent monetization itself may never be truly competitive. For example, the market for patent monetization may have first mover advantages. As many scholars have noted, larger groupings of patents may be more useful than smaller groupings or individual patents.[134] With mass aggregation, early players in the field may become large enough to ensure success before others enter the market, not because the early players are better at evaluating patents and choosing good ones, but because of their sheer size combined with tactics used to intimidate. This phenomenon could create entry barriers such that those who come later will never be able to compete on even terms.[135]

¶131 Antitrust law established some time ago that being big is not bad, in and of itself. Certain tactics, however, are troubling when taken by those who have the power to hurt consumer welfare in a particular market by adversely affecting prices, quantities, qualities, or varieties of goods and services that are currently or potentially available.[136] In other words, big is not bad; it is what you do with your girth that matters. If entry barriers do exist, early entrants into the mass aggregation game may have the girth and the tactics that would raise antitrust concerns.

¶132 We note, as an initial point, that the extensive ties among the various mass aggregators should raise questions and concerns about horizontal collusion. The complexity and opaque nature of the corporate structures make it extremely difficult to track the interactions and connect the dots.

¶133 For example, consider the scenario suggested above in which the mass aggregator negotiates a license from a troublesome troll on behalf of its members. Under certain circumstances, one might consider this to be an example of horizontal collusion in which competitor producing companies join together to force a lower price from a supplier.

¶134 In the largely unregulated environment of this early market, there do seem to be opportunities for horizontal interactions that could raise questions about anticompetitive behavior. For example, one prospective investor in mass aggregators reported interesting interactions between two aggregators, Acacia and RPX.[137] According to the investor, the two entities have a monthly call in which Acacia describes the producers they are in the process of targeting and the patents they will assert against the producers. Acacia then names a price for the patents in question, and RPX purchases the patents if it wishes.

¶135 Most likely, the interactions constitute nothing more than innocent, periodic sales discussions. Under other circumstances, however, the interactions could constitute horizontal collusion. This emerging market environment is reminiscent of the Wild West, in which the early settlers created and enforced their own norms, and there was little scrutiny or law enforcement from sovereign entities.

C. Raising Rivals' Costs[138]

¶136 The current market for patent monetization offers other opportunities for anticompetitive behavior. For example, wouldn't it be nice if you could create a tax on production for your competitor while keeping your own costs low? The market for patent monetization may be a good vehicle for that. Characteristics such as entry barriers to keep new entrants out, the inability to quickly resolve issues of patent validity and application, as well as the extensive bargaining inherent in

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[134] *See* Peter N. Detkin, *Leveling the Patent Playing Field*, 6 J. MARSHALL REV. INTELL. PROP. L. 636, 641 (2007).

[135] Patents are unique goods somewhat like fine art. It is for similar reasons that the Getty Museum announced early on that it would stick to acquisition in certain key areas and would provide grants and subsidies to other museums. Otherwise, the best art would always be acquired by the Getty given the size of its endowment.

[136] *See* U.S. DEP'T OF JUSTICE AND FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY 2 (1995), *available at* http://www.justice.gov/atr/public/guidelines/0558.htm.

[137] See email from investor on file with authors.

[138] Thomas G. Krattenmaker & Steven C. Salop, *Anticompetitive Exclusion: Raising Rivals' Costs to Achieve Power Over Price*, 96 YALE L.J. 209 (1986).

the patent system provide ample opportunities for using the market for patent monetization to raise rivals' costs. A tax on production is even more troubling when administered through a market concentrated in the hands of a few actors.

¶137 Consider the recent lament of Google's chief legal officer, David Drummond. Google purchased a smartphone operating system called Android to compete with Apple's iPhone and smartphone devices that use Microsoft's Windows system. As sales of Android increased, Apple and Microsoft joined a coalition of companies to purchase a set of patents from recently acquired Novell. Apple and Microsoft then teamed up in a second coalition to purchase a large set of telecommunications patents at auction from recently bankrupt Nortel Networks. Drummond complained that the group entered the Nortel auction, sending the bidding far above expected value, in order to prevent Google from purchasing the patents and to assert those patents against makers of Google's Android phone in an effort to raise the cost of the phone.[139] As Drummond commented so colorfully, "Microsoft and Apple have always been at each other's throats, so when they get in bed together you have to start wondering what's going on."[140]

¶138 The Justice Department, expressing concerns over the competitive effects of the group's purchase of the Novell patents, insisted on certain requirements, including that 1) Microsoft sell back the Novell patents and maintain only a license; and 2) all of the patents acquired must be available for open source licensing.[141] These requirements are cold comfort to Google, which is still subject to efforts by members of the group to assert the Nortel patents acquired in various ways against makers of Android phones.[142] Apparently as a response to the Nortel auction, Google purchased Motorola Mobility, a mobile telecom arm of Motorola, for $12.5 billion in August 2011.[143] The acquisition gives Google access to some 17,000 patents owned by Motorola Mobility.[144]

¶139 Concerns about the possibility of raising rivals' costs are particularly troubling in light of the privateering behavior that is prominent for most of the mass aggregators. Tom Ewing has described extensively how privateering through third parties can be used to damage one's competitors or advance one's competitive position through a variety of techniques. These include privateering activities that bring patent lawsuits aimed at scaring off a competitor's customers and suppliers; patent suits timed to lower the stock price before an initial public offering or a merger so that the potential investor buys the stock for less, and privateering activity in a particular nascent field, which is designed to distract young management and drive risk capital towards particular companies.[145] If particular mass aggregators accumulate sufficient power, then those who are "in the gang" have a tremendously powerful club that could be used for anticompetitive activity.

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[139] *See* David Drummond, *When Patents Attack Android*, THE OFFICIAL GOOGLE BLOG (Aug. 4, 2011, 12:37 PM), http://googleblog.blogspot.com/2011/08/when-patents-attack-android.html (describing Microsoft's effort in demanding $15 in licensing fees per phone from various Android phone makers) (citing Miyoung Kim, *Microsoft Wants Samsung to Pay Smartphone License: Report*, THOMSON REUTERS (July 6, 2011, 6:24 AM), http://www.reuters.com/article/2011/07/06/us-samsung-microsoft-idUSTRE7651DB20110706).

[140] *Id.*

[141] U.S. Dep't. of Justice, *CPTN Holdings LLC and Novell Inc. Change Deal in Order to Address Department of Justice's Open Source Concerns*, JUSTICE NEWS (Apr. 20, 2011), http://www.justice.gov/opa/pr/2011/April/11-at-491.html.

[142] *See, e.g.*, Kim, *supra* note 139; Josh Halliday & Charles Arthur, *Microsoft Sues Motorola Over Android*, GUARDIAN TECH. BLOG (Oct. 5, 2010, 7:21 AM), http://www.guardian.co.uk/technology/2010/oct/04/microsoft-motorola-android-patent-lawsuit. Of major concern is the fact that a large number of the Nortel patents are related to emerging industry standards for fourth-generation (4G) wireless technology. *See, e.g.*, Jamie Sturgeon, *Five Years that Changed Everything*, FIN. POST (Aug. 20, 2011, 8:59 AM), http://business.financialpost.com/2011/08/20/five-years-that-changed-everything/. Not surprisingly, Google appears to be purchasing patents en masse themselves, recently acquiring a portfolio of more than 1000 patents from International Business Machines. *See* Amir Efrati, *Google Buys IBM Patents,* WALL ST. J. (July 29, 2011, 12:41 PM), http://online.wsj.com/article/SB10001424053111904800304576475663046346104.html.

[143] *See* Press Release, Google to Acquire Motorola Mobility (Aug. 15, 2011), *available at* http://investor.google.com/releases/2011/0815.html.

[144] Victoria Slind-Flor, *Google, Nokia, Easyjet, 'Snakeman,' Yahoo!, UMG: Intellectual Property*, BLOOMBERG (Oct. 4, 2011, 4:01 AM), http://www.bloomberg.com/news/2011-10-04/google-nokia-easyjet-yahoo-umg-intellectual-property.html.

[145] *See* Ewing, *supra* note 55.

¶140 Society should be particularly concerned about privateering activity aimed at next-generation technologies that threaten to unseat an entrenched monopolist.[146] If participants in mass aggregators are well-entrenched monopolists, for example, patent lawsuits could conceivably be used to burden next-generation technology or soften them up for easier purchase. Imagine if Microsoft had purchased Sergey Brin and Larry Page's little search engine long before Google became a competitive threat.

¶141 The purchase of the Novell and Nortel patents has focused attention on activities in the smartphone sector. In general, however, purchasing patents to assert against a competitor, either directly or through third-party proxies, in an effort to raise the competitor's costs is a type of behavior that can be difficult to detect and even harder to deter. A targeted competitor could try to assert private antitrust claims or claims of patent misuse.[147] Current doctrinal trends in both areas, however, make these claims difficult to pursue. The Federal Circuit is hostile to claims of patent misuse and rarely finds such claims to be valid.[148] Antitrust claims are even more difficult to pursue.[149] In general, one has a right to petition the government, even if the successful petition would have an anticompetitive impact, and the definition of government includes a petition to a court. [150] There is an exception in which one can base an antitrust claim on court filings that constitute sham litigation. This requires a finding that from both an objective and subjective perspective, the claim filed was a sham.[151] Given the uncertainties in patent interpretation, however, it is extremely difficult to establish that assertion of a patent against a product is a sham, particularly given the high burden of proof that some courts have required in sham litigation cases. In sum, it is tremendously difficult to succeed in a private antitrust claim.[152]

¶142 Competition authorities, such as the Federal Trade Commission, the Department of Justice, and state antitrust agencies might choose to file antitrust claims. These tend to be slow moving processes, however, and these agencies would face the same hurdles as private antitrust claimants. By the time the competition authorities detect the behavior, and the courts understand it enough to make room in the doctrines, early movers may have reaped their rewards and moved on to other tactics. In short, the type of tactics available to mass aggregators, given characteristics of patents and the structure of the market for patent monetization may raise troubling concerns of anticompetitive effects.

D. Other Troubling Market Behavior

¶143 Although details of mass aggregator behaviors are difficult to come by or to confirm, one fascinating episode involving RPX gives a rare inside view of the types of tactics that mass aggregators have used. In January of 2011, the owner of a Russian technology company contacted the FBI to suggest that criminal charges be filed against RPX for allegedly engaging in extortion, mail

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[146] *See* Robin C. Feldman, *Defensive Leveraging in Antitrust*, 87 GEORGETOWN L.J. 2079 (1999).

[147] Particular to smartphones, patents that are essential to communication standards have been subject to high antitrust scrutiny. Members of standards bodies are required to license their patents on Fair Reasonable and Non-Discriminatory (FRAND) terms. However, due to the massive number of patents held by different members and the effect of cross-licensing on license rates, it is nearly impossible to find similarly-situated licensees in order to determine whether offered license rates are anti-competitive. *Qualcomm v. Broadcom*, 501 F.3d 297 (3rd Cir. 2007), is a singular case finding an antitrust violation because the licensor had blatantly offered reduced license rates for standard-essential patents to customers.

[148] *See, e.g.*, Robin C. Feldman, *The Insufficiency of Antitrust Analysis for Patent Misuse*, 55 HASTINGS L.J. 399 (2003) (arguing the fundamental limitation of antitrust analysis to evaluate abusive licensing practices). The Federal Circuit most recently re-affirmed the strict limits of the patent misuse doctrine in *Princo Corp. v. ITC*. Princo Corp. v. ITC, 616 F.3d 1318, 1329 (Fed. Cir. 2010) ("Recognizing the narrow scope of the doctrine, we have emphasized that the defense of patent misuse is not available to a presumptive infringer simply because a patentee engages in some kind of wrongful commercial conduct, even conduct that may have anticompetitive effects.").

[149] FELDMAN, *supra* note 102, ch. 5.

[150] The Noerr-Pennington doctrine is rooted in the constitutional right to political speech and allows citizens to petition the government without feat of antitrust liability. United Mine Workers v. Pennington, 381 U.S. 657 (1965); E. R.R. Presidents Conference v. Noerr Motor Freight, Inc., 365 U.S. 127 (1961).

[151] Prof'l Real Estate Investors v. Columbia Pictures Indus., 508 U.S. 49, 60-61 (1993) (articulating the present standard for sham litigation).

[152] FELDMAN, *supra* note 102, ch. 5.

or wire fraud, and racketeering. The letter, signed by the CEO and Chief Intellectual Property Counsel of Kaspersky Labs was reproduced on the GameTime IP Blog on May 31, 2011.

¶144 The letter described the following allegations. According to Mr. Kaspersky, a non-practicing entity named IPAT sued his company and 23 other companies for patent infringement. Eventually, 22 of the companies signed confidential settlement agreements and were released from the suit, and eleven of those became members of RPX.

¶145 According to the letter, Kaspersky's company was approached by RPX as well in an email explaining that RPX had acquired the patents in the lawsuit and could release Kaspersky from the suit in exchange for a 3-year membership in RPX at a cost of $160,000 a year. With such a membership, Kaspersky Labs would be released from the suit and would have the benefit of not being sued in connection with any of the other RPX patents.

¶146 Mr. Kaspersky says that in the three months following the initial contact, he received additional letters and emails from RPX, noting that other defendants in the suit had joined RPX and been released, that the deadline for joining would soon expire, and that if Kaspersky were to ever sue other members of RPX, RPX would make patents from its pool available to that member to defend or counterclaim against Kapersky. Finally, Mr. Kaspersky received an email from RPX explaining that even though RPX had pledged not to use its patents offensively, RPX could sell its patents to third parties to be used against non-RPX members. (In such a scenario, of course, the few holdout companies would become the only targets.) The message also suggested that companies who did not contribute financially to the settlement would harm their relationship with industry peers.

¶147 As far as we have been able to determine, the FBI has taken no action in response to the Kaspersky letter. Nevertheless, it is not hard to understand how a foreign entity might interpret this type of patent interaction as extortion. The episode also highlights the need for better definition of what is legal and what is not in this arena. For example, when would behavior analogous to what is described in the Kaspersky letter cross the line into anticompetitive behavior? Could the facts ever be such that it would constitute an attempt to monopolize a market by organizing a cartel? In asking that question, what market should we be analyzing, the market for the product covered by the patent, the market for patents in this product arena, or the market for monetization of patents as a whole?

¶148 In addition, when should the legal rules require disclosure of a relationship between parties, either for conflict of interest rules, corporate disclosures, antitrust, or agency purposes? What would constitute a sufficient relationship between the parties to require disclosure? For example, if a mass aggregator's members include all but one player in a particular arena, and the mass aggregator transfers the patent to a third party giving the third party the right to sue only those who are not members of the mass aggregator, is the third party acting as an agent of the aggregator when it sues the only holdout? These are the types of questions that current law is ill equipped to handle.

E. Odd Characteristics of the Inputs Supplying the Market

¶149 In addition to harm from a tax on current production and opportunities for anticompetitive conduct, the new market for patent monetization has other characteristics that raise the specter of harm to innovation and innovation industries. Consider first the odd characteristics of the inputs that are supplying the market for patent monetization.

¶150 One can think of mass aggregators as any other type of market producer. Aggregators have a product to sell, and they must purchase inputs to create the product. In this case, the sole raw materials are patents and patent applications.

¶151 Purchasing patents as raw inputs for something other than a manufactured product differs from the traditional assumptions about the role of patents in the economy.[153] The primary role of patents as it has developed in the modern economy is to allow an inventor or the inventor's licensee to have

[153] Of course, some historical inventors such as the Wright Brothers were primarily interested in licensing their patents rather than making products, but such inventors were outliers.

market space for bringing a new product to market from the invention by excluding others from making, using, or selling the invention.[154] As described above, however, aggregators make almost no effort themselves to cross the divide from patent to product.

¶152 Patents are also created or acquired for defensive purposes. Once a company secures patent rights to an invention, that company frequently tries to patent possible variants of the invention, to keep competitors from making a close substitute for the product.[155] Patents also flow out of R&D activity as academic institutions or commercial R&D departments search for innovations, patent them, and then put them aside, hoping to find a licensee who will develop the product or to turn to them when the company is ready to pursue new products.

¶153 Once inventions have been created and patented, they traditionally change hands for a limited set of reasons, most of them related to product development. Companies producing a product may acquire patents or license them to create what is known as "freedom to operate", that is the ability to produce a product without concerns of infringement suits.[156] Along these lines, patents may also be acquired to create a robust portfolio so that competitors who might be tempted to file an infringement claim will be deterred or rebuffed by the number of patents that the company can threaten in return. Companies also find themselves with a varied patent portfolio through mergers and acquisitions, which may bring patents that range far from the company's core products.

¶154 Thus, the patents that are now being acquired as inputs for mass aggregators traditionally have been created and exchanged for other reasons, if at all.[157] Whether patented offensively or defensively, inventions have typically been created and acquired either in hopes of creating a commercial product or for reasons closely related to a commercial product. These inputs, very few of which would ever generate revenue, are now being monetized and traded independent of underlying products.

¶155 In the words of the patent system, we are finding a "new use" for these old products as inputs for the mass aggregator product. The new use, however, is not necessarily a good use, from society's perspective, although it might potentially generate huge returns for certain investors and early adopters.

F. Odd Characteristics of the Aggregator Business

¶156 Although there are many ways to conceptualize the product that mass aggregators offer, consider the following perspective: What is the mechanism by which mass aggregators expect to generate income to share with their investors? Some investors receive the benefit of being able to use the portfolio as a shield from infringement litigation, but not all investors need this particular benefit. Investors such as the William & Flora Hewlett Charitable Foundation and the World Bank, for example, are unlikely to worry much about patent infringement lawsuits. All investors, however, are promised a share of the profits from the mass aggregator's core business. That business involves gaining a return by monetizing patents.

¶157 In order to gain a direct return from monetizing patents, the return must be collected from revenues on existing manufactured products. Someone, someplace has to make something that is at least sort of like the patented invention. There is simply no other way to make a penny from a patent.[158] In other words, the aggregator's level of return depends on how successful it is at

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[154] We note that we are describing the role of patents in the modern economy, rather than the description necessarily promulgated in judicial decisions.

[155] This is called "defensive patenting", in which patent continuations (procedural revisions of patent applications) are used to create new claims for different variants. For a discussion of use of defensive patents as bargaining chips in cross-licensing, see William E. Kovacic, *Intellectual Property Policy and Competition Policy*, 66 N.Y.U. ANN. SURV. AM. L. 421 (2011).

[156] Analysis of freedom to operate is complicated by the sheer volume of issued patents as well as the possibility of overlapping rights, termed by Carl Shapiro as a "patent thicket." *See* Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools and Standard Setting*, *in* 1 INNOCATION POLICY AND THE ECONOMY 119 (Adam B. Jaffe, Josh Lerner, & Scott Stern eds., 2001).

[157] We note that small trolls prototyped the process of altering the uses of patents many years ago.

[158] A technology license and/or know how would be a different matter.

extracting value from existing products or products close to the production pipeline. In a world of perfect information (especially regarding valuation), low transaction costs, and a smoothly functioning patent system, one might have fewer concerns about any negative effects on the innovation system. Aggregators would simply play the role of ensuring that the proper value is shared with the proper inventor, an activity that might well stimulate future innovation.[159]

¶158 In the real world of patents, however, the picture is quite different. As described above, the system is not effectively structured to filter out or even retard weak or misapplied patents, and the costs and risks of litigating an infringement suit may far exceed the costs of paying off a claimant. Thus, the result of having a market for patent monetization is not simply that the forgotten inventor triumphs; patents are monetized regardless of whether they are strong or weak.[160]

¶159 To put it bluntly, the successful aggregator is likely the one that frightens the greatest number of companies in the most terrifying way. In fact, a potentially successful approach might be to use a large number of patents of questionable value acquired cheaply and mixed in with a handful of strong ones.[161] When the aggregator knocks on the door, manufacturers may capitulate simply because the aggregator is the biggest, baddest guy on the block.[162]

¶160 This may not be the type of market that society wishes to encourage. At the very least, society might want to curtail certain behaviors, if not forbid them altogether. How can one do this, however, without causing even greater harms to the innovation system? How does one water the garden so that only the beneficial plants grow while the weeds whither?

G. Economic Stability

¶161 Although the possibilities are more remote, one should also consider the potential negative effects for the broader economy. Patents are linked to innovation in general, which is likely to affect all sectors. Thus, the effects of the market for patent monetization could be felt broadly across the economy.

¶162 One reference point could be the dot.com crash of the early 2000s, which had a negative impact on the economy as a whole.[163] The run-up to the dot.com crash featured large amounts of capital flowing into early stage and speculative technology companies, mostly related to the Internet. Many of the companies had yet to develop a product or to turn a profit; this was the era of "vaporware," in which companies could receive funding, go public, and sell products on little more than the promise of what they might be able to develop. Everyone agreed that some companies would surely strike it rich in the Internet game, and investors were willing to bid up prices on shares of entities with little proven value in the hopes that some of them would prove to be gold. The "irrational exuberance" that drove investment to a frenzied level eventually burst, creating a recession in the technology industry with ripple effects across the broader economy.[164]

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[159] Although even in a perfect system, one would presumably want to balance the royalties that are going to old technology (up to 26 years old) as opposed to rewards/royalties going to newer technologies. Most new patents expire 20 years, more or less, after their filing, but damages can be collected up to six years after infringement has occurred.

[160] Indeed, one of the benefits of the aggregator model is that it achieves the scale of the licensing operations of the large operating companies, such as IBM, where at least a few patents from a portfolio of 30,000 active patents is almost certain to be at least arguably infringed by any licensing target—and there are few reasons why the prospective licensee should review the 30,000 active patents and develop strategies for arguing invalidity and/or non-infringement—which is precisely the game played by operating companies when approached by a small portfolio comprising just a few patents.

[161] This approach, of course, arguably mimics the approach target for a generation by the large operating companies in conducting their licensing operations. This is precisely the reason behind legendary licensing procedures such as the ruler metric in which each side literally measures its stack of patents against the other side's stack.

[162] A process frequently described at IP symposiums as "a value proposition."

[163] Roger Lowenstein thoroughly examines the fervor that led to the crash in ROGER LOWENSTEIN, ORIGINS OF THE CRASH: THE GREAT BUBBLE AND IT'S UNDOING, (Penguin 2004). Discussing the cavalier attitude of analysis and use of the rising market as a benchmark for investment, Lowenstein offers the following quote from Morgan Stanley's Mary Meeker: "We have only one response to the word 'valuation' these days: 'Bull Market.'" *Id.* at 111.

[164] This term, attributed to Alan Greenspan, is now used to describe a heightened state of speculative fervor. *See* Alan Greenspan, Chairman, Fed. Reserve Bd., Remarks at the Annual Dinner and Francis Boyer Lecture of the American Enterprise Institute for Public Policy Research: The Challenge of Central Banking in a Democratic Society (Dec. 5, 1996) (transcript available

¶163 Not all of the companies that failed during the technology crash were weaklings. Many of these companies had good business models, and the myriad of ways in which the Internet could be utilized offered legitimate opportunities for economic exploitation. Others have successfully resurrected the business models for certain companies that failed when the technology bubble burst in subsequent years. Nevertheless, the sector could not absorb all the capital that was being thrown at it indiscriminately, and this, among other problems, led to the crash.

¶164 Although there are certainly differences between the emergence of the market for patent monetization and the run-up to the 2002 technology crash, the similarities are interesting. Most patents traditionally have proven to have little value. The promise of a new use for this intangible and abstract asset is already driving up prices for patents and could conceivably move prices above a rational level. This is particularly true given the venture capital like returns being promised to some investors, returns that are difficult to duplicate elsewhere in the current economy. One might reasonably wonder how much capital can be absorbed into the market for intellectual property rights over a period of time without the investment activity itself causing a local economic deformation.

¶165 Specifically, if prices are driven to an irrationally high level, there could easily be a correction, one whose trajectory might be as steep as the run-up. With a sector crash, less aggressive aggregators could fail along with more aggressive ones, and publicly traded aggregators could fail along with the private ones.

¶166 Normally, if some people are foolish enough to bid prices up to an irrational level, society would be unconcerned when those investments fail. We may care more, however, if the crash is such that it impacts the economy as a whole or impairs our ability to innovate in an economy largely based on innovation. By analogy, the government would allow Border's Books to fail, for example, but would be more concerned with a threat of extensive bank failures.

¶167 Although the chances of a wild patent ride followed by a broad economic crash are remote, the scenario is worth contemplating, nevertheless. To the extent that patents affect all sectors of the economy, one should be mindful of potentially destabilizing events.

H. "To Serve Man"[165]

¶168 Mass aggregator activity may have additional effects that will reduce or delay the benefits of innovation. In particular, the value proposition put to inventors from 400 universities worldwide and presumably a comparable number of independent inventors may have been something along the lines that this process would facilitate the commercial development of their inventions. But there is a stark difference between just patenting an invention and building a technical prototype, developing related know how, and creating a market for the invention. To obtain a patent one does not need to have a working product. Indeed, a genuinely working product could be years away. For example, Chester Carlson's patented experiments with dry chemical photocopying machines from 1936 until he produced the first commercially successful Xerox machine in the early 1950s. His experience provides a cautionary example of the difference between a patent and working product.[166] Funding an aggregator at best funds the Chester Carlsons of the world in 1936 and not the Haloid Xerox Company of the 1950s. Chester Carlson's work on developing a photocopier would have likely stopped once an aggregator had purchased his first few patents.[167] The aggregator would then wait for someone else to take up the ideas later—maybe as much as 26 years later—and then request

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at http://www.federalreserve.gov/boarddocs/speeches/1996/19961205.htm).

[165] DAMON KNIGHT, TO SERVE MAN (1950). The short story was immortalized as a *Twilight Zone* episode in 1962. *To Serve Man (The Twilight Zone)*, WIKIPEDIA, http://en.wikipedia.org/wiki/To_Serve_Man_(The_Twilight_Zone) (last visited Dec. 5, 2011).

[166] Carlson's first patent, US Patent No. 2,221,776, claimed priority from an application filed in 1937. This initial patent was followed up by some 40 other patentable inventions over nearly a 35-year period by Carlson alone—apart from the additional inventive contributions made by Xerox employees working to elaborate Carlson's initial inventive vision.

[167] And even if Carlson's work continued, it would likely lack the practical groundings that come from placing products in the stream of commerce and then observing how to make them faster, cheaper, and better.

royalties. If Chester Carlson turned out to be the truly lone pioneer, then a practical photocopier would never have been produced, at least not on any sort of speedy timeframe.

¶169 The situation of dropped inventions has already happened before. The fax machine, which was all the rage in the '80s and '90s was invented in 1881 but then largely dropped with the exception of improvements for the transmission of photographs by news agencies.[168] Even if a Chester Carlson sells his first patent to an aggregator and continues working, his further work will not be guided by the real world fits and starts associated with making an early prototype and early commercial activity but will much more likely comprise a series of blue sky thought experiments disconnected from the real world. In short, the later patents will almost certainly be of lower value in this scenario because they build only on the shoulders of the first patent and not real experiences.[169]

¶170 It is possible, of course, that buying up all the early Chester Carlson patents will encourage more Chester Carlson's. For this to happen, however, Chester Carlson and many folks like him will have to believe that he got a good deal in selling his patents to the mass aggregator. While he might appreciate the cash that he was paid for the patents, Chester like many inventors, probably wants to see his technology developed. Society's interests would parallel Chester's in this regard. Innovations that are delayed or never produced can create little benefit for society as a whole, although such delays may possibly benefit incumbent producers since they can extend the lifetimes for what would otherwise be obsolete products. The imperfections of the patent system suggest that many of these patents would not have made it to market. Some percentage of those, however, would have stayed in someone's drawer and had little effect on the innovation system at all, other than complicating patent searches. With mass aggregators, the products go into the drawer and the patents are used against current producers who might otherwise have continued on their way unimpeded.

¶171 If the inventors who have sold to a modern mass aggregator had aspirations that the aggregator would facilitate the commercial exploitation of their inventions, they are likely to be sadly mistaken. The largest of the mass aggregators, Intellectual Ventures, has reportedly built only one prototype from all the inventions that it has purchased, and this one prototype was for an improved nuclear reactor that was co-invented by the company's founder Nathan Myhrvold.[170]

¶172 Thus, while aggregators may defend their activities on the grounds that they are promoting innovation and the great rewards that society will receive through new products, the reality may be that many fewer inventions ever become products and many more will be placed on a greatly extended trajectory. For inventors who hope that that mass aggregators will turn their patents into real products and the world will finally appreciate their innovations, the scenario is somewhat reminiscent of an old Twilight zone episode entitled, "To Serve Man." In the episode, friendly aliens arrive and offer humanity a panacea from all the woes that beset it. The aliens even take some lucky humans back to their home planet who are so happy that they never return. Only later does humanity discover that the aliens' book "To Serve Man" is not a gospel of benevolent duty, but a cookbook.

I. Ancillary Implications

¶173 In addition to the economic concerns raised above, the accumulation of power may be troubling in light of the potential for mischief in ancillary avenues. For example, in March of 2011, a company called Mission Abstract Data LLC sued more than 100 radio industry defendants from different parts

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[168] US Patent No. 2,292,387 to Hedy Lamarr and George Antheil, which reported the invention of spread spectrum communication and frequency hopping, had nearly expired as a patent before the US Navy began preliminary work in developing a prototype. Lamarr and Antheil never sought to create a company around their invention, and the inaction resembled that of a patent aggregator. This communications technique underlies all modern communications techniques, however. For full story, see FELDMAN, *supra* note 102.

[169] Carlson's story is not all that different from other disruptive innovators, including but not limited to television pioneer Philo Farnsworth and the Wright Brothers.

[170] TerraPower "was formed from an effort initiated in 2007 by Nathan Myhrvold's company Intellectual Ventures." *Who We Are*, TERRAPOWER, http://www.terrapower.com/WhoWeAre.aspx (last visited Nov. 15, 2011). TerraPower has raised $35 million. Matthew L. Wald, *Developer of Novel Reactor Wins $35 Million Infusion*, N.Y. TIMES (June 14, 2010), http://www.nytimes.com/2010/06/15/business/energy-environment/15nuke.html. Compared to the $5 billion Intellectual Ventures has ready to invest, TerraPower's $35 million is less than 1% of Intellectual Ventures' total funding.

of the country for patent infringement.[171] Intellectual Ventures previously owned the underlying patents, and the pathway from Intellectual Ventures to Mission Abstract Data's present owner Digimedia Holdings LLC is unclear. Similarly, the New York Times Company filed a declaratory judgment action[172] against Webvention, LLC, which obtained its patents by merger with Intellectual Ventures' Ferrara Ethereal LLC in Nov. 2009.[173] The *New York Times* lawsuit ended in less than a month after the Times obtained a covenant not to sue from Webvention on undisclosed terms.[174] Another set of patents formerly owned by an Intellectual Ventures shell company, and now owned by Patent Harbor LLC, have been used in infringement lawsuits brought against 39 entertainment companies, including DreamWorks Animation SKG, Inc.[175] In a draft of our article posted on an academic works-in-progress website in September of 2011, we noted ironically that Myhrvold is a board member of lead defendant DreamWorks Animation SKG, Inc.[176] Although the timing may be coincidental, Dreamworks was dismissed from the lawsuit, by a motion filed jointly by plaintiffs and defendants, shortly after the article was posted.[177] The dismissal serves as a reminder that it is good to have friends in high places.

¶174 Most of these litigations are in early stages and very little information is available. The action of suing a large number of media producers, however, sparked our imagination. We offer the following scenario as a hypothetical and note that there is no indication of such intent on the part of any of the companies.

¶175 Imagine a mass aggregator that is unhappy with the press coverage it is receiving or would like to encourage media support for a particular issue. With this in mind, the mass aggregator sues a large number of players in a particular sector of the media based on patents that the aggregator has recently acquired. When the parties sit down to negotiate, the mass aggregator notes obliquely that, "it is so odd to be on opposite sides of the table when we have so many issues of mutual interest."[178] The conversation could then touch lightly on coverage that would portray the mass aggregator in a better light or political initiatives that the media outlets might be interested in investigating or supporting. Across time as the parties work together on various issues, the settlement costs seem to move into a range that is remarkably comfortable for the media stations.[179]

¶176 Players in the patent world are quite adept at oblique conversations. In many circumstances, a patent holder may wish to demand that a producer pay for a license without taking the risk that the producer will file a declaratory judgment action to have the patent invalidated. Declaratory Judgment actions can only be filed if there is a sufficient threat of litigation.[180] To avoid crossing the threshold,

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[171] The case names 116 defendants, although many may be corporately related to each other. *See* Mission Abstract Data LLC v. Beasley Broadcasting Group, Inc., No. 1:11-CV-00176-LPS, (D. Del. filed Mar. 1, 2011).

[172] N.Y. Times Co. v. Webvention Holdings LLC, No. 1:11-CV-00634-GMS (D. Del. filed July 18, 2011).

[173] *See* USPTO ASSIGNMENTS ON THE WEB, http://assignments.uspto.gov/assignments/?db=pat (search "Assignee Name" for "Ferrara Ethereal LLC").

[174] *See* Notice Of Dismissal Without Prejudice Against Webvention, N.Y. Times Co. v. Webvention Holdings LLC, No. 1:11-CV-00634-GMS (D. Del. Aug. 17, 2011).

[175] Patent Harbor, LLC v. DreamWorks Animation SKG, Inc., No. 6:2011-CV-00229-LED (E.D. Tex. filed May 9, 2011) (The complaint was filed on May 9, 2011, and involves two patents formerly owned by Gisel Assets KG, LLC, a company that appears to be an Intellectual Ventures shell company).

[176] Robin Feldman & Thomas Ewing, The Giants Among Us (unpublished manuscript) (Sept. 6, 2011), *available at* http://ssrn.com/abstract=1923449; *see also* DreamWorks Animation SKG, Inc., Current Report (Form 8-K) (Apr. 21, 2011), *available at* http://www.sec.gov/Archives/edgar/data/1297401/000119312511110112/d8k.htm.

[177] *See* Stipulation By Patent Harbor, LLC, Paramount Home, Entertainment Inc., Dreamworks Animation, SKG, Inc., Dreamworks Animation, LLC, and Dreamworks Animation Home, Entertainment, LLC and Stipulation Of Dismissal Of Dreamworks, Animation, SKG, Inc., Dreamworks Animation, LLC, and Dreamworks Animation Home Entertainment , LLC, Patent Harbor, LLC v. DreamWorks Animation SKG, Inc., No. 6:2011-CV-00229-LED (E.D. Tex. Oct. 13, 2011).

[178] This lawsuit ironically came to light about the same time that National Public Radio, not a party to the lawsuit, produced a program called "When Patents Attack" that was highly critical of Intellectual Ventures. *See* Blumberg & Sydell, *supra* note 5.

[179] One could imagine an alternative scenario in which a new line of business as an "influence peddler." An aggregator sues X number of media outlets for patent infringement. As a settlement, the aggregator then seeks some defined measure of editorial control. Having obtained a slice of editorial control over a huge swath of the media, the aggregator then sells this editorial control (or slices of it) to the highest bidder.

[180] *See* MedImmune, Inc. v. Genentech, Inc. 549 U.S. 118, 127 (2007) (requiring "a substantial controversy, between parties having adverse legal interests, of sufficient immediacy and reality to warrant the issuance of a declaratory judgment") (quoting

patent holders may send correspondence referring to areas of mutual interest or issues that might be worth pursuing. This has been described as the Dance of the Sugar Plum Letter,[181] and the media scenario above is simply a variation on the theme.

¶177 The type of behavior suggested in the media hypothetical would be quite difficult to identify or to address. The hypothetical is a reminder that massive power can be troubling, not just for its potential economic effects, but for its potential effects in other dimensions as well.

¶178 We note along these lines that since the draft of our article was posted,[182] Intellectual Ventures purportedly has been wining and dining members of the academy. This approach may be familiar to the company, which appears to have solicited favorable commentary in the past.[183]

IV. A FEW OBSERVATIONS

¶179 The market for monetized patents, which has been created through patent aggregators, should be understood as a massive, rapidly growing, and essentially unregulated market. It has grown up quietly, remaining under the radar as early entrants have garnered power and strength. As with any market, it should be monitored and regulated, with sovereign entities giving some thought to whether aspects of the market should be encouraged, tolerated, deterred, or outright forbidden.

A. Regulatory Oversight

¶180 Competition authorities, such as the Federal Trade Commission and the Department of Justice, are in the best position to address the activities of mass aggregators and the market for patent monetization. Establishing the rules for this market, however, will require a certain amount of reorientation in the conceptualization of innovation markets.

¶181 The most natural FTC/DOJ regulatory structures for analyzing the activities of mass aggregators are those in the context of licensing and acquisition activity.[184] In licensing, the Agencies follow a set of basic principles that are applied to intellectual property licensing in general. These principles are that intellectual property is comparable to any other form of property and standard antitrust analysis applies, that intellectual property is not presumed to create market power, and that intellectual property licensing is generally procompetitive.[185] The Agencies believe that problems arise, however, when a licensing arrangement harms competition among entities that would have been actual or likely competitors in the absence of the arrangement.

¶182 In analyzing intellectual property licensing agreements, the Agencies consider three basic markets that can be affected by anticompetitive licensing restrictions: goods markets, technology markets, and innovation markets. Goods markets, of course, are those related to final or intermediate goods and their close substitutes. When rights to intellectual property rights are marketed separately from the products in which they are used, the Agencies use technology markets to analyze competitive

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Maryland Casualty Co. v. Pacific Coal & Oil Co., 312 U.S. 270, 273 (1941)) .

[181] *See* FELDMAN, *supra* note 102, ch. 2. Intellectual Ventures use of the phrase "invention gaps" provides an excellent example of such communications.

[182] *See* Feldman, *supra* note 177.

[183] *See* Complaint and Jury Demand at 6, Choate v. Intellectual Ventures, LLC, No 1:11-CV-00528-ckk (D.C. Mar. 14, 2011) (alleging that plaintiff was hired by Intellectual Ventures to generate opposition to changes in patent law by disputing the theory that the patent system is in crisis due to frivolous litigation; activities included writing article and monograph).

[184] Three agency reports are particularly useful for understanding the current agency approach. U.S. FED. TRADE COMM'N, THE EVOLVING IP MARKETPLACE: ALIGNING PATENT NOTICE AND REMEDIES WITH COMPETITION (2011), *available at* www.ftc.gov/os/2011/03/110307patentreport.pdf [hereinafter EVOLVING MARKETPLACE]; U.S. DEPT. OF JUSTICE AND FED. TRADE COMM'N, HORIZONTAL MERGER GUIDELINES (2010), *available at* www.ftc.gov/os/2010/08/100819hmg.pdf [hereinafter MERGER GUIDELINES]; and U.S. DEPT. OF JUSTICE AND FED. TRADE COMM'N, ANTITRUST GUIDELINES FOR THE LICENSING OF INTELLECTUAL PROPERTY (1995), *available at* http://www.justice.gov/atr/public/guidelines/0558.htm [hereinafter ANTITRUST LICENSING].

[185] *See* ANTITRUST LICENSING, *supra* note 184, at 2.

effects.[186] Technology markets consist of the intellectual property that is licensed and its close substitutes.

¶183 Finally, licensing arrangements may have competitive effects on innovation that cannot be adequately addressed through goods or technology markets. Thus, the Agencies have identified a third type of market, the innovation market, which is defined as the research and development directed to particular new or improved goods or processes.[187]

¶184 The Agencies do have particular guidelines for certain types of arrangements that may be relevant to the activities of mass aggregators, including guidelines on cross-licensing, pooling arrangements, and grantbacks. Grantbacks are licensing arrangements in which the license holder agrees to give the patent holder rights to any improvements on the invention.

¶185 In the case of pooling, for example, the guidelines note that exclusion from pooling arrangements can be anticompetitive if a) excluded firms cannot effectively compete in the relevant market and b) pool participants collectively poses market power in the relevant market.[188] Similarly, grantbacks may be found anticompetitive if they substantially reduce the licensee's incentives to engage in research and development.[189] One should note, however, that these concerns are analyzed against a backdrop of the Agencies' perspective that licensing is generally procompetitive.

¶186 In a 2011 report on The Evolving Intellectual Property Marketplace, the Federal Trade Commission took notice of increasing activity by what it called "patent assertion entities" or "PAEs" in the information technology industry.[190] In particular, the Agency noted the following:

> Some argue that PAEs encourage innovation by compensating inventors, but this argument ignores the fact that invention is only the first step in a long process of innovation. Even if PAEs arguably encourage invention, they can deter innovation by raising costs and risks without making a technological contribution.[191]

The report, however, notes the difficulty in distinguishing patent transactions that harm innovation from those that promote it, and rather than recommending antitrust action proposes various improvements in patent notice and remedies.

¶187 Although these are important considerations, a full analysis of the impact of mass aggregators requires identification of a different market. Even when Agencies think about separately marketed intellectual property rights or innovation markets, those categories are grounded in their relationship to a particular product market. Moreover, market power is measured in relationship to that product market.

¶188 When patent rights float unmoored from any underlying products on a large-scale, widespread manner such that they are traded and arbitraged, that activity begins to resemble a market of its own. This is the market we have been describing as the market for patent monetization. Viewed from this perspective, an entity could acquire market power in the market for patent monetization without necessarily holding a monopoly in any individual product markets.[192] Considering only product, technology, and innovation markets could miss a fair amount of worrisome activity.

¶189 Another way to think about floating patent rights and anticompetitive effects is the following: One may not need a monopoly on patents in a particular product market to create negative effects in that market. Perhaps one simply needs a large enough group of all kinds of patents in combination with tough tactics or even just a reputation for tough tactics.

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[186] *Id.* at 8.

[187] *Id.* at 10-11.

[188] *Id.* at 28.

[189] *Id.* at 30.

[190] *See* EVOLVING MARKETPLACE, *supra* note 184, at 8.

[191] *Id.* at 9.

[192] See the discussion above about Intellectual Ventures and the Ocean Tomo patent auctions, for example.

¶190 Moreover, the Agencies may need to reconsider the general principle that licensing is procompetitive. In the context of a market for intellectual property rights floating separately from invention or production, that general principle may be less applicable. One has to take a much harder look at licensing when it has become such an expansive activity that is separated so far from the activity of introducing new technologies.

¶191 The same types of considerations should be used for reorienting the Agencies' approach to acquisition of intellectual property rights. Section 7 of the Clayton Act requires that certain proposed acquisitions of assets be reported, which is interpreted as including patents. The FTC and DOJ may conduct a preliminary antitrust evaluation and decide whether to take enforcement action.[193]

¶192 Certain transfers of intellectual property rights and transaction that grant an exclusive license are analyzed by applying the principles and standards used to analyze mergers.[194] Such transactions may have the effect of removing a participant from the market, in the same manner as a traditional merger would.[195]

¶193 In any merger enforcement action, the Agencies will normally identify one or more relevant markets in which the merger may substantially lessen competition. Such market definitions focus solely on demand substitution factors, which are customers' ability and willingness to substitute away from one product to another. Again, the traditional Agency focus in this inquiry would be on the market for the products that can be made by the patents that are being purchased, but not on the market for patent monetization itself. Such an inquiry would miss a wealth of potential anticompetitive conduct and consequences.

¶194 In short, competition agencies should think about a market composed of floating intellectual property rights as its own market, in order to capture the potential for harm and mischief. Courts also must be willing to understand and approach patent markets in this manner. Although the focus initially may be on patents in this market, it is possible that over time it will become clear that the market for all intellectual property rights, including trade secrets and know-how as well as patents, should be considered.

¶195 Courts, agencies and government entities must also engage in doctrinal changes that will allow for the curative power of sunshine. As we encountered in trying to track the acquisition and litigation activity of the mass aggregators, many of the current doctrines in corporation and agency law allow aggregators to shield their identities from government view and from their competitors who may be subsequently blindsided in litigation. The targets themselves may be unable to determine who the aggregator is, sometimes even when the parties are in litigation. The less appealing behavior described above is much easier to carry out in secrecy than in the light of day. We should consider changes that will bring such activities to light, making them easier to monitor and evaluate their individual and cumulative effects.

B. Let the Sun Shine In

¶196 If society wishes to impose regulation on the market for patent monetization, regulators will need a method of monitoring behavior. One might also wish to make activity transparent to members of the public, who can be useful for alerting regulators to potential problems. In particular, where the law anticipates that society's interests may align with members of the public, lawmakers may choose to make information publicly available or to provide avenues for members of the public to advance actions on their own behalf.

¶197 Current laws provide limited opportunities for identifying and tracking activity in this market and many opportunities for hiding. Mass aggregators have sufficient access to capital and legal resources to take advantage of all opportunities offered and to prepare for a host of contingencies. Among

[193] For a description of notice and filing requirements, see *Premerger Introductory Guides*, U.S. FED. TRADE COMM'N (Oct. 24, 2011), http://www.ftc.gov/bc/hsr/introguides/introguides.shtm.

[194] ANTITRUST LICENSING, *supra* note 184, at 31.

[195] Such transactions may be assessed under § 7 of the Clayton Act, §§ 1-2 of the Sherman Act, and § 5 of the FTC Act.

other things, the mass aggregators have constructed elaborate corporate networks that narrowly confine the legal claims that can be brought against them, providing a firewall that protects the larger organization.

¶198 Consider Searete LLC, a fairly well-known Intellectual Ventures shell company[196] that exemplifies the complicated ownership and management structures employed by mass aggregators.[197] Searete has the type of complex and carefully woven legal structure that would make a defense lawyer beam with joy. It is a Delaware limited liability company with a presence in Nevada.[198] Searete's official manager in Nevada is "Nevada Licensing Manager, LLC," which is a Nevada corporation.[199] Nevada Licensing Manager's own manager is "Nevada Assets, LLC," which is a Delaware company.[200] At some point, Nevada Assets, LLC presumably connects with Intellectual Ventures, LLC or one of Intellectual Ventures' many investment funds. However, the connection might be little more than the ownership of shares, effectively rendering almost no one responsible for its actions.

¶199 The other 1,300 or more shell companies in Intellectual Ventures' organization exist in similarly obscure networks with the "parent" company, structures permitted by the corporate laws in many states. In short, the ownership and management structures for mass aggregators are often elaborate, and state corporation laws complicate the process of finding out who actually controls any given limited liability company.[201]

¶200 The ownership and control picture may not become much clearer even after litigation has begun, not only for the public but for the litigants as well. Rule 7.1 of the Federal Rules of Civil Procedure requires all nongovernmental litigants to disclose their parent corporation and any publicly held corporation owning 10% or more of their stock.[202] The rule's purpose is not to discover litigation motives and corporate activities, but to assist judges in disqualifying themselves due to conflicts of interest.[203] The rule's focus on parents and public companies, however, limits its effectiveness in disclosing the parties ultimately behind patent monetization activity, especially with mass aggregators that are not public companies.

¶201 Individual courts may impose additional disclosure rules that may bring further information to light. Some jurisdictions use variations of the rule. For example, the Central District of California employs the variation, known as a "Certification as to Interested Parties," that requires disclosure of a much broader range of parties. The variation states:

> L.R. 7.1-1 Certification as to Interested Parties.1 To enable the Court to evaluate possible disqualification or recusal, counsel for all non-governmental parties shall file with their first appearance an original and two copies of a Notice of Interested Parties which shall list all persons, associations of persons, firms, partnerships and corporations (including parent corporations clearly identified as such) which may have a pecuniary interest in the outcome of the case, including any insurance carrier which may be liable in whole or in part (directly or indirectly) for a judgment that may be entered in the action or for the cost of defense. Counsel shall be under a continuing obligation to file an amended certification if any

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[196] John Letzing, *Microsoft's Big Brains Spill Into Patent Firm*, MARKETWATCH (Feb. 4, 2009) http://www.marketwatch.com/story/microsofts-big-brains-spill-over-patent.

[197] Intellectual Ventures parks many of its "inventioneering" patent applications in Searete. *Id.*

[198] Delaware Corporations file 3776428 shows that Searete LLC was formed on March 12, 2004. DELAWARE DIVISION OF CORPORATIONS, https://delecorp.delaware.gov (search "file number" for "3776428"). Nevada Corporations records show that Searete LLC, Nevada Corporate Id NV20041267664 was registered in Nevada on Nov. 15, 2004. NEVADA BUSINESS ENTITY SEARCH, http://nvsos.gov/sosentitysearch/CorpSearch.aspx (search "NV Business ID" for "NV20041267664").

[199] NEVADA BUSINESS ENTITY SEARCH, http://nvsos.gov/sosentitysearch/CorpSearch.aspx (search "NV Business ID" for "NV20041267664"). Nevada Corporation records show that Nevada Licensing Manager, Nevada Corporate ID NV20041268216 was created on Nov. 15, 2004. *Id.* (search "NV Business ID" for "NV20041267664").

[200] Delaware Corporations file 3881571 shows that Nevada Assets, LLC was also created on Nov. 15, 2004. DELAWARE DIVISION OF CORPORATIONS, https://delecorp.delaware.gov (search "file number" for "3881571").

[201] Nevada, for example, is known for being particularly respectful of such information. Some, but far from all, foreign corporations laws are also protective of such information while other countries require full disclosure.

[202] FED. R. CIV. P. 7(a)(1).

[203] *See* GLEN WEISSENBERGER, FEDERAL CIVIL PROCEDURE LITIGATION MANUAL 7.1.1 (Matthew Bender, 2010).

> material change occurs in the status of interested parties as, for example, through merger or acquisition, or change in carrier which may be liable for any part of a judgment.[204]

¶202 Some other courts use a similarly worded variation requiring that at a first appearance in any proceeding with the court, the party must file a "Certification of Interested Entities or Persons":

> (1) The Certification must disclose any persons, associations of persons, firms, partnerships, corporations (including parent corporations), or other entities other than the parties themselves known by the party to have either: (i) a financial interest (of any kind) in the subject matter in controversy or in a party to the proceeding; or (ii) any other kind of interest that could be substantially affected by the outcome of the proceeding.
>
> (2) For purposes of this Rule, the terms "proceeding" and "financial interest" shall have the meaning assigned by 28 U.S.C. 455 (d)(1), (3) and (4), respectively.
>
> (3) If a party has no disclosure to make pursuant to subparagraph (b)(1), that party must make a certification stating that no such interest is known other than that of the named parties to the action.[205]

¶203 These additional disclosure rules of either variety have proven somewhat more effective in revealing the parties ultimately behind various Non-Practicing Entity patent litigations. For example, Intellectual Ventures' involvement in several cases was not initially disclosed under Rule 7.1 but was later disclosed under the local rule variations, including one case in which a major portion of its investors were disclosed.[206]

¶204 For example, in *Oasis Research, LLC v. Adrive, et al.*[207], the Rule 7.1 disclosure by Oasis Research stated that the company had no parent corporation and that no publicly held corporation owned 10% or more of its stock.[208] But seven months later in complying with a local rule similar to one of the variations above, Oasis Research disclosed that "Intellectual Ventures Computing Platforce Assets LLC" had a financial interest in the outcome of the case.[209] Intellectual Ventures co-founder Peter Detkin later conceded during a radio interview that Intellectual Ventures Computing Platforce Assets, LLC was an Intellectual Ventures shell company.[210]

¶205 Similarly, in *Xilinx v. Invention Investment Fund I LP*,[211] the plaintiff Xilinx filed a declaratory judgment action in California against six Intellectual Ventures affiliated companies shortly after Intellectual Ventures affiliated companies sued three Xilinx competitors in Delaware.[212] Xilinx and Intellectual Ventures had been in licensing discussions prior to the filing of the lawsuit;[213] Xilinx is also apparently an investor in Intellectual Ventures.[214]

¶206 In the California lawsuit, Intellectual Ventures and Xilinx engaged in a battle of motions concerning whether the disclosure could be filed under seal or for attorneys' eyes only, rather than

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[204] C.D. Cal. R. 7.1-1, *available at* http://www.cacd.uscourts.gov (click "Local Rules" link, then search for "7.1" and select "F.R.Civ.P. 7.1 Disclosure Statement").

[205] N.D. Cal. R. 3-16, *available at* http://www.cand.uscourts.gov/filelibrary/3/Civ6-11.pdf (referring to definitions from 28 U.S.C. § 455).

[206] *See* Defendants' Certificate Of Interested Entities Or Persons Pursuant To Civil Local Rule 3-16 and F.R.C.P. 7.1, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. May 16, 2011).

[207] Oasis Research, LLC v. Adrive, No. 4:10-CV-00435-MHS ALM (E.D. Tex. filed Aug. 30, 2010). The case is still pending.

[208] Rule 7.1 Disclosure Statement, Oasis Research, LLC v. Adrive, No. 4:10-CV-00435-MHS-ALM (E.D. Tex. Aug. 31, 2010).

[209] Plaintiff Oasis Research, LLC's Disclosure Pursuant To The Court's Order To Meet, Report And Appear At Scheduling Conference, Oasis Research, LLC v. Adrive, No. 4:10-CV-00435-MHS-ALM (E.D. Tex. Mar. 10, 2010).

[210] *See* Blumberg & Sydell, *supra* note 5.

[211] Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. filed Feb. 14, 2011).

[212] Intellectual Ventures I LLC v. Altera Corp, No. 1:10-CV-01065-LPS (D. Del. filed Dec. 8, 2010).

[213] *See* Intellectual Ventures Motion to Dismiss at 6, 9, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. filed Apr. 11, 2011) (Intellectual Ventures describes its negotiations with Xilinx as "routine patent licensing discussions" but concedes that after two months of negotiations, the parties had not even agreed to a non-disclosure agreement that would "allow more detailed technical discussions to proceed").

[214] Of the four Intellectual Ventures funds listed in Intellectual Ventures' disclosure of interested parties, Xilinx is listed as a potentially interested party in two of the funds. Defendants' Certificate Of Interested Entities Or Persons Pursuant To Civil Local Rule 3-16 and F.R.C.P. 7.1, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. May 16, 2011).

publicly. As the parties' motions began flying across the judge's bench, the judge recused herself, presumably because she became aware of the identities of the interested parties, and a new judge was appointed.[215] The new judge accepted Xilinx' arguments and the Intellectual Ventures parties disclosed publicly a list of investors including more than 50 entities, such as the World Bank, the Mayo Clinic, the William and Flora Hewlett Foundation, and several universities.[216]

¶207 In *Xilinx*, the court has now dismissed several of the Intellectual Ventures parties on the grounds that they were not the legal owners for some of the patents specifically mentioned in Xilinx's declaratory judgment action.[217] The legal owners for these patents include some seven other Intellectual Ventures shell companies,[218] and the California judge has transferred this portion of the lawsuit to Delaware.[219] So, the network of affiliated shell companies seems to have served Intellectual Ventures well in this case because its network was so vast that Xilinx did not identify the formal owner among a group of extremely related parties, allowing transfer of portions of the case to Delaware. The case is a cautionary tale for any company targeted by a mass aggregator that one should pay careful attention to who actually owns the patents being pushed in a licensing campaign, as opposed to who is doing the licensing negotiation or who may ultimately receive the funds from the licensing or litigation. Thus, for example, when a licensing target decides to file a declaratory judgment action based on a campaign launched by Chilly Willy Licensing, LLC for the benefit of Chilly Willy Licensing Partners LP, the target should make sure to name Chilly Willy Patent Holding LLC in the complaint and be grateful that the corporate names include their function in the overall enterprise—otherwise, Chilly Willy Patent Holding will file its own complaint in the jurisdiction of its choosing while Chilly Willy Licensing seeks dismissal from the declaratory judgment action on grounds that it is not the patent owner.

¶208 Outside the disclosure requirements designed for judicial recusal, entities have considerable ability to camouflage their ownership. Most states offer corporate forms that allow companies to shield the identity of their owners, typically in the context of a limited liability company ("LLC") format. In some states, such as Delaware, no public information is provided regarding the owners of such companies. Other states, such as Nevada, allow limited public disclosure of an LLC's management, although the disclosure is also too limited to identify the ultimate owners or the names of real persons responsible for their day-to-day affairs.

¶209 For private actors in patent litigation against mass aggregator shell companies, finding the identity of the owners or investors is only one hurdle; holding the owners or investors liable for the activities of the shell corporation is far more difficult. Under most circumstances, a corporation is regarded as a legal entity separate and distinct from its stockholders, officers, directors, and investors. When a corporation is used by another entity to perpetrate fraud, circumvent a statute, or accomplish some other wrongful or inequitable purpose, however, a court may pierce the corporate veil and treat the corporation's acts as if they were done by those controlling the corporation.[220]

¶210 In battles over piercing the corporate veil, the structures being adopted by some of the mass aggregators may be helpful in protecting them. A key predicate in piercing the corporate veil

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[215] Judge Koh recused herself from the case on April 28, 2011. Order of Recusal, Xilinx v. Invention Investment Fund I LP, No. 11-CV-00671-LHK (ND Cal. Apr. 28, 2011). Judge Koh became a Superior Court judge in 2008 and a federal judge as recently as 2010; prior to that she was in private practice. By contrast, Judge Illston, who was assigned to the case after Judge Koh, has been a federal judge since 1995.

[216] Defendants' Certificate Of Interested Entities Or Persons Pursuant To Civil Local Rule 3-16 and F.R.C.P. 7.1, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. May 16, 2011).

[217] *See* Order Re: Motions To Enjoin, Dismiss And/Or Transfer, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. July 27, 2011).

[218] Defendants' Motion To Dismiss Xilinx's Complaint For Declaratory Judgment, Xilinx v. Invention Investment Fund I LP, No. 11-CV-0671 (N.D. Cal. Apr. 11, 2011) (the chart on page 12, lines 6-11 identifies the owners of the patents subject to declaratory judgment as Intellectual Ventures affiliates Detelle Relay KG, LLC, Roldan Block NY, LLC, Latrosse Technologies, LLC, TR Technologies Foundation LLC, Taichi Holdings, LLC, Noregin Assets N.V., LLC, and Intellectual Venture Funding LLC).

[219] *See supra* note 211.

[220] *See, e.g.*, Communist Party v. 522 Valencia, Inc., 35 Cal. App. 4th 980, 993 (1995).

concerns the presence or absence of distinct legal entities.[221] Some mass aggregators, such as Intellectual Ventures and Transpacific, are structured so that each layer is a distinct legal entity, providing a measure of protection. Courts are extremely reluctant to pierce the corporate veil in most circumstances,[222] and the carefully crafted legal structures will make it particularly difficult to disregard the corporate form.

¶211 Piercing the corporate veil is less of a direct issue for antitrust actions brought by either private plaintiffs or competition authorities. Under those circumstances, the mass aggregator and its shell company or third-party privateer could conceivably be charged with concerted action in violation of the antitrust laws.[223] At the very least, however, such actions would require alteration of the definition of relevant markets, as well as an enhanced system for monitoring relevant behavior.

C. Removing the Teeth of the Tiger

¶212 We cannot close the article without highlighting the systemic problems giving rise to the phenomenon of mass aggregation. One must keep in mind the peculiar elements that have brought us to the point at which large, respectable companies feel the need to sign onto patent defense funds. These are the same elements that make mass aggregation activity so potentially troubling.

¶213 Troll behavior, whether small or aggregated, is fueled by a patent system that lacks a cost-effective method of quickly resolving validity and infringement questions. There are better uses for federal courts than using them as forums for conducting licensing negotiations. A copious supply of patents that are only lightly tested at the time of the grant enhances the problem. As long as insufficient information, uncertainty, and high transaction costs reign, troll activity will continue to flourish. We should focus our efforts not only on limiting troubling behavior among mass aggregators but also on making trolling a less lucrative endeavor in the first instance.

CONCLUSION

¶214 The patent world is poised to undergo a change of astounding proportions. A system that has operated such that the vast majority of patents bring little or no return is shifting to a system in which a substantial number of patents will become traded and monetized, largely through a system of mass aggregators. The giants among us are undoubtedly changing the patent world. The question that remains is how.

¶215 One could argue that mass aggregators could potentially have positive effects. Mass aggregators might potentially ensure that the forgotten inventor receives the compensation due or could serve as a middleman to connect inventors with capital and expertise. Mass aggregators could also serve as litigation defense funds, providing Just-in-Time patenting and creating a powerful weapon stream that will deter troublesome infringement suits. Mass aggregators may also reduce troll activity by soaking up the supply of monetizable patents. The question, however, is whether the cure is worse than the disease.

¶216 In particular, the same market characteristics that have led to the rise of troll activity are likely to plague the activities of mass aggregators as well. Without changing the basic incentive structures of the patent system, mass aggregation will be no better than the current patent system at rewarding the deserving inventor and greasing the wheels of innovation while protecting diligent producing companies. Moreover, the activity of mass aggregation brings its own potential harms. Rather than contributing technological innovations, mass aggregators operate as a tax on current production, burdening existing products and potentially reducing future innovation and productivity. In addition,

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[221] *See* Nelson v. Adams USA, Inc., 529 U.S. 460, 470-71 (2000).

[222] *See, e.g.*, Sonora Diamond Corp. v. Superior Ct., 83 Cal. App. 4th 523, 539 (2000) (noting that alter ego [piercing the corporate veil] is an extreme remedy, sparingly used); *accord* Dole Food Co. v. Patrickson, 538 U.S. 468, 475 (2003).

[223] One might also try to establish that third-party privateers were acting as agents on behalf of the mass aggregator. *See* RESTATEMENT (THIRD) OF AGENCY § 1 (2006) (focusing on whether the purported agent acts on the principal's behalf and subject to the principal's control).

characteristics of the market for patent monetization make it an excellent vehicle for anticompetitive behavior, including horizontal collusion and single firm or multi-firm behavior that raises rivals' costs. Most important, the basic business model of mass aggregation is troubling. The successful aggregator is likely to be the one that frightens the greatest number of companies in the most terrifying way. This may not be an activity that society wants to encourage.

¶217 These and other concerns suggest that mass aggregators and the market for patent monetization should not be allowed to flourish unchecked. The burgeoning market must be properly monitored, regulated, and restricted so that the considerable risks associated with this activity may be fully contemplated and cabined.

APPENDIX A: UNIVERSITIES

- Alabama, University of
- Brigham Young University
- Bristol, University of
- British Columbia, University of
- Brunel University
- California Institute of Technology
- California, the Regents of the University of
- Campinas State University (Brazil)
- City University London
- Clemson University
- Connecticut, University of
- Darmstadt, Technical University of
- Duke University
- Florida Institute Of Technology
- Florida, University of
- Helsinki University of Technology
- Hiroshima University
- Hong Kong University
- Indian Institute of Technology - Bombay
- Kyushu University
- Manitoba, University of
- McMaster University
- Monash University
- New Jersey Institute of Technology
- New Mexico, University of
- New South Wales, University of
- North Carolina at Charlotte, University of
- Oklahoma, University of
- Ottawa, University of
- Oulu, University of
- Polytechnic University
- Ramot at Tel Aviv University
- Rhode Island University
- Rochester Institute Of Technology
- Rochester, University of
- Rutgers University
- Singapore, National University of
- Southern Mississippi, University of
- Stevens Institute Of Technology
- Stirling, University Of
- Strathclyde, University of
- Texas, University System, the Board Of Regents
- University of California San Diego
- Western Sydney, University of
- Westminster, University of

APPENDIX B

Investors in Various Intellectual Ventures Funds as Reported by Intellectual Ventures in *Xilinx v. Intellectual Ventures Investment Fund I, L.P. et a*l. on May 16, 2011

No.	Investor	Invention Investment Fund I	Invention Investment Fund II	Intellectual Ventures I	Intellectual Ventures II	Notes
	OPERATING COMPANY					
1.	Adobe Systems Incorporated		Financial Interest			
2.	Amazon.com NV Investment Holdings Inc., an affiliate of Amazon.com, Inc.	Financial Interest	Financial Interest			
3.	American Express Travel Related Services Company, Inc.	Financial Interest				
4.	Apple, Inc.	Financial Interest	Financial Interest		Financial Interest	
5.	Cisco Systems, Inc.		Financial Interest		Financial Interest	
6.	eBay Inc.	Financial Interest	Financial Interest			
7.	Google Inc.	Financial Interest				
8.	Intel Corporation	Financial Interest	Financial Interest			
9.	Microsoft Corporation	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
10.	Nokia Corporation	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
11.	Nvidia International Holdings, Inc., an affiliate of Nvidia Corporation	Financial Interest	Financial Interest			
12.	SAP America, Inc.	Financial Interest	Financial Interest			
13.	Sony Corporation	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
14.	Verizon Corporate Services Group Inc.		Financial Interest		Financial Interest	
15.	Xilinx, Inc.	Financial Interest	Financial Interest			
16.	Yahoo! Inc.	Financial Interest	Financial Interest			
	INVESTMENT FUND					
17.	Allen SBH Investments LLC	Financial Interest		Financial Interest		Entity related to the Allen & Company LLC
18.	Charles River Ventures	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
19.	Commonfund Capital Venture Partners VII, L.P.	Financial Interest		Financial Interest		Verne Sedlacek is president & CEO
20.	Flag Capital		Financial Interest		Financial Interest	Diana H. Frazier and Peter Lawrence co-founded Flag

21.	JP Morgan Chase Bank, N.A., as trustee for White Plaza Group Trust	Financial Interest		Financial Interest		It is not clear who are the beneficiaries of the White Plaza Group Trust.
22.	Certain funds of McKinsey and Company, Inc.		Financial Interest		Financial Interest	
23.	Next Generation Partners V, L.P.	Financial Interest		Financial Interest		Appears to be related to Flag Capital
24.	Sequoia Holdings, LLC	Financial Interest		Financial Interest		Sequoia was founded by David Beisner
25.	Sohn Partners		Financial Interest		Financial Interest	
	FOUNDATION/UNIVERSITIES/NON-PROFITS					
26.	Board of Regents of The University of Texas System		Financial Interest		Financial Interest	
27.	The Board of Trustees of the Leland Stanford Junior University		Financial Interest		Financial Interest	
28.	Brown University		Financial Interest		Financial Interest	
29.	Bush Foundation		Financial Interest		Financial Interest	The Archibald Bush Foundation was established by a former 3M chairman.
30.	Cornell University	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
31.	Dore Capital, L.P., and affiliate of The Vanderbilt University	Financial Interest		Financial Interest		Dore appears to have a relationship with Apax Europe VI-A, L.P.
32.	The Flora Family Foundation		Financial Interest		Financial Interest	Founded by William Hewlett and Flora Hewlett.
33.	Grinnell College		Financial Interest		Financial Interest	
34.	Howard Hughes Medical Institute	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
35.	International Bank for Reconstruction and Development, as trustee		Financial Interest		Financial Interest	The IBRD is one of five banks that comprise the World Bank
36.	Legacy Ventures		Financial Interest		Financial Interest	Russ Hall, Alan Marty, and Chris Eyre are the managing directors
37.	Mayo Clinic and Mayo Foundation Master Retirement Trust	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
38.	Northwestern University	Financial Interest	Financial Interest	Financial Interest	Financial Interest	
39.	Reading Hospital		Financial Interest		Financial Interest	A non-profit hospital located in Reading, Penn.

40.	The Rockefeller Foundation	Financial Interest		Financial Interest		
41.	Skillman Foundation		Financial Interest		Financial Interest	A Detroit-based charity that includes a member of the Ford family in its board of directors.
42.	TIFF Private Equity Partners	Financial Interest	Financial Interest	Financial Interest	Financial Interest	TIFF: "The Investment Fund of Foundations," is an investment cooperative.
43.	Trustees of the University of Pennsylvania		Financial Interest		Financial Interest	
44.	University of Southern California		Financial Interest		Financial Interest	
45.	University of Minnesota		Financial Interest		Financial Interest	
46.	The William and Flora Hewlett Foundation		Financial Interest		Financial Interest	
	INDIVIDUALS					
47.	Dobkin, Eric	Financial Interest	Financial Interest	Financial Interest	Financial Interest	Appears to be Eric Dobkin, an advisory director to Goldman Sachs and Chairman Emeritus of Global Equity Capital Markets
48.	Fields, Richard	Financial Interest	Financial Interest	Financial Interest	Financial Interest	This may be Richard Fields, Chairman of Coastal Development, LLC
49.	Gould, Paul	Financial Interest		Financial Interest		This may be Paul Gould, a director of Allen & Co.
50.	Holiber, Adam		Financial Interest		Financial Interest	The may be Adam Holiber, president of Summit Equity
51.	Peretsman, Nancy	Financial Interest	Financial Interest	Financial Interest	Financial Interest	This would appear to be Nancy Peretsman, a director of priceline.com and managing director at Allen & Company LLC

APPENDIX C

A. Introduction

¶1 This appendix summarizes the methodology employed in uncovering Intellectual Ventures patent holdings.[1] Our methodology relies on two broad categories of similarities among the 1,276 Intellectual Ventures shells that we have identified. We will term the first category "corporate similarities" and the second category "patent prosecution similarities." These two sets of similarities are reasonably independent of each other and thus provide some confidence that a suspected shell company has a relationship with Intellectual Ventures.

¶2 We first reviewed the open literature about Intellectual Ventures. Many of these articles identified a few of Intellectual Ventures' shell companies.[2] Other articles identified companies that had purportedly sold or licensed patents to Intellectual Ventures. We next reviewed corporate records for those publicly identified Intellectual Ventures shell companies. After observing similarities in the structure of these shell companies, we expanded our investigation to look for other companies sharing the same characteristics.

¶3 Using this initial list of shell companies, we searched the US Patent & Trademark Office's assignment database to find which companies were listed as the assignees or licensees of patents and/or published applications. Where possible, we attempted to find public information about the transactions involved. We performed this process iteratively several times in order to expand the list of shell companies. Thus, the first phase of our research comprised looking for "corporate similarities" among suspected shell companies.

¶4 The second phase of our research concerned reviewing "patent prosecution similarities." In this phase, we reviewed the patent portfolios of the shell companies to look for active cases—pending applications, continuations, and reissue applications—under the assumption that the new owner would have likely filed a new power of attorney in order to take over prosecution of the case from the previous owner.[3] We also reviewed assignment data for the patents where available. We assumed that the information gleaned from these information sources would provide independent support for the "corporate similarities" uncovered in the first phase and in many cases actually include the name of an Intellectual Ventures executive, employee, or agent. We then integrated the results of our findings, conducting further research into Intellectual Ventures' corporate organization and its apparent business plans.

¶5 Finally, we prepared integrated lists of the patents and published applications for the shell companies that we found.[4] This phase also included determining the first International Patent Classification (IPC) class for the patents and applications since the Intellectual Ventures portfolio need not necessarily have a single specific technology focus. If this portfolio contained fewer than 100 patents, then it might be sufficient to simply list the patents by number and title. However, with 11,000+ patents and pending applications spread across a variety of technologies, understanding this portfolio suggests that the patents also be organized by technical subject matter.

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[1] The methodology discussed here describes techniques that enabled author Tom Ewing to create an initial survey of Intellectual Ventures' holdings in 2007. The data have been expanded and updated with the most recent version in May 2011. On the model of Lex Machina, which was originally a project of Stanford Law School, the database is available for a cost to commercial entities from author Tom Ewing. Certain use of the database is available on different terms to academics.

[2] *See, e.g.*, Victoria Slind-Flor, IV Moves From Myth To Reality, 32 Intellectual Asset Management August/September 2006 (the article identifies 48 Intellectual Ventures shell companies).

[3] *See, e.g.*, 37 CFR 1.32 Power of Attorney, available at http://www.uspto.gov/web/offices/pac/mpep/consolidated_rules.pdf *and* Manual of Patent Examining Procedure Sec. 402; available online at http://www.uspto.gov/web/offices/pac/mpep/documents/0400_402.htm#sect402.

[4] We provide detailed listings of patents in our full Intellectual Ventures report.

¶6 The documents found during this investigation provide a rich source of information that further link the apparent shell companies to Intellectual Ventures and suggest avenues for future research. After providing an overview of our methodology, we will discuss how our methodology was employed to discover two specific Intellectual Ventures shell companies. These shell companies are Ben Franklin Patent Holding, LLC and Northstar Acquisitions, LLC. Ben Franklin Patent Holding, LLC is a fairly well-known Intellectual Ventures shell company that has been mentioned in several articles about Intellectual Ventures.[5] Ben Franklin is also a fairly easy shell company to trace to Intellectual Ventures because its portfolio came from another Intellectual Ventures shell named Intellectual Ventures Patent Holding I, LLC in a transaction conducted on Nov. 18, 2003.[6] Northstar Acquisitions, LLC is another company that we suspected was an Intellectual Ventures shell based, among other things, on certain similarities that Northstar shares with Ben Franklin. We eventually found documents signed by an Intellectual Venture employee/agent who had also signed documents for Ben Franklin. To our knowledge, Northstar had not been identified as an Intellectual Ventures shell company prior to our original 2007 report.

B. Corporate Similarities

¶7 We first studied Intellectual Ventures' apparent corporate structure, focusing primarily on the shell companies. We next studied the available corporate information about these publicly identified shell companies in order to find characteristics or features that might reveal other shell companies. We noticed that all of the publicly identified shell companies were of the "limited liability company," or "LLC" form. We further noticed that the publicly identified shell companies were generally registered in either Delaware or Nevada.

¶8 We also noted that the sole addresses for the Delaware companies were:

- 2711 Centerville Road Suite 400, Wilmington, DE 19808,
- 1209 Orange Street, Wilmington, DE 19801, or
- 160 Greentree Drive Suite 101, Dover, DE 19904

These addresses correspond to addresses for the three largest registered agency firms in the US. The Centerville Road address is the address for the Corporation Service Company (CSC). The Orange Street address is the address for the Corporation Trust Company (CTC), and the Greentree Drive address is the address for National Registered Agents, Inc. (NRA).[7]

¶9 Similarly, the Nevada registered companies have addresses that correspond to the Nevada address for these same registered agency firms. For example, many companies have the CSC's Centerville Road address listed for Delaware and CSC's 2215-B Renaissance Drive, Suite 5, Las Vegas, NV 89119 address as their registered Nevada address.[8]

¶10 The organization of the Nevada registered companies allowed us to find additional shell companies. For example, the listed manager in Nevada for the three publicly identified Intellectual Ventures shells Poulsen Transmitter LLC, Smeaton Pump LLC, and Twain Typesetting LLC is "Gigaloo LLC."[9] We were curious to see if Gigaloo LLC was the manager for any other companies

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[5] Sind-Flor, *supra* note 2.

[6] *See, e.g.*, Reel/Frame: 014770/0486, US Patent Office Assignment Database for US Patent No. 5675811, recording the change of name from Intellectual Ventures Patent Holding I, L.L.C. to Ben Franklin Patent Holding LLC, available at http://assignments.uspto.gov/assignments/q?db=pat&reel=014770&frame=0486 (last visited Nov. 30, 2011.).

[7] *See*, Delaware Authorized Searchers, Delaware Secretary of State, which lists all three companies at these addresses; available at http://corp.delaware.gov/uccauthsrch.shtml (last visited Nov. 30, 2011).

[8] *See, e.g.*, LVL Patent Group, LLC v. DirectTV, Inc., Echostar Technologies, L.L.C; Echostar

Corporation and Dish Network L.L.C., 1:99-mc-09999 (D. Del. 2011) ("EchoStar Corp. has appointed CSC Services of Nevada, Inc., 2215-B Renaissance Drive, Las Vegas, Nevada 89118, as its agent for service of process."), available at: http://morrisjames.files.wordpress.com/2011/09/lvl-patent-group-llc-v-directv-inc-et-al.pdf.

[9] On the Nevada Secretary of State business entity website, select "officer" and enter "Gigaloo" in the "last name" field. The search will produce these 10 companies managed by Gigaloo, LLC. We first performed this search on May 30, 2007 and most recently performed it on Nov. 30, 2011; website available at http://nvsos.gov/sosentitysearch/corpsearch.aspx.

in Nevada. Our inquiry revealed that seven other companies—Ayscough Visuals LLC, Fahrenheit Thermoscope LLC, Hollerith Statistics LLC, Maiman Laser Systems LLC, McGill Fastenings LLC, Newcomen Engine LLC, and Ochoa Optics LLC—were also managed by Gigaloo. We observed that these seven companies also shared the characteristics that drew us to the first three shell companies.

¶11 As a backup test, we spot checked the USPTO assignment database and discovered that all 10 Gigaloo-managed companies, except for McGill Fastenings, were assigned patents in transactions recorded from 2004-2007[10]. As a further test, we spot-checked this list to see if any of these companies seemed to have a presence on the web that indicated actual commercial activity. For example, could we find any mention of Hollerith Statistics LLC as a going entity with an actual office and an actual staff? For the companies that we spot-checked, we found nothing.

¶12 This process led us to notice additional commonalities among these companies. For example, we noticed that many of Intellectual Ventures' early shell companies have two-part names that are either derived from the work of a famous artist or scientist (*e.g.*, Steinbeck Cannery LLC), or contain a color (*e.g.*, Purple Mountain Server), or a geographical location (*e.g.*, Baldwyn Brices Cross Roads[11]). We later observed that some of the shells seemed to have been named after minerals and other chemical compositions.

¶13 We further observed that many of the shell companies were also created in both Delaware and Nevada on similar, if not the same, dates. For example, of the 51 management companies, 34 were incorporated in Delaware on Sept. 7, 2004, and all the companies managed by Algorythm LLC were created on March 17, 2005.[12] We also noticed that some shell companies seemed to have been formed in Nevada only and have no Delaware counterpart. We have similarly observed that other shell companies have been formed in Delaware only with no Nevada counterpart.

¶14 Our list of corporate characteristics for the Nevada companies eventually included: 1) LLC corporate form, 2) a Nevada corporation, or a Delaware corporation also registered in Nevada, 3) identical addresses for registered agents in Delaware and Nevada, 4) similar dates of corporate formation, 5) recipient of patents assigned/licensed between 2000-2007, 6) no corporate existence prior to Intellectual Ventures' formation in 2000, 7) no recorded patents prior to Intellectual Ventures' formation in 2000, 8) management by a company having a one-word name that also has the LLC corporate form, and 9) approximately 10 companies under management by the LLC management company where none of the 10 companies seemed to have an independent commercial existence.

C. Patent Prosecution Similarities

¶15 A patent prosecution file history may provide information about who owns a patent and/or the company ostensibly prosecuting the patent. When a patent or pending application is purchased, the new owner will not only want to register his ownership of the patent with the USPTO, he will also want to assume control over the prosecution of any pending patent applications.[13] In order to assume control, the patent owner must file a new power of attorney with the USPTO and must also

---

[10] We conducted this research in preparation for the first edition of our report in 2007. Searches for later editions did not terminate in 2007. We note that McGill Fastenings had no patents recorded against its name in 2007 and in 2011 still has no patents recorded against its name, according to the USPTO assignment database. This does not mean that the company holds no patent rights.

[11] We noticed that the names of some Intellectual Ventures shells, such as Baldwyn Brices Cross Roads, curiously seemed to be found in a sample template available with the Shoebox program for organizing photographs by their content. This may be mere coincidence or it might possibly provide some support for the rumor that the names of Intellectual Ventures shells are selected by a computer. One Shoebox template can be found at: http://www.kavasoft.com/Shoebox/categories/examples/Things/National_Parks.html.

[12] Algorythm LLC manages Reverb Communications LLC, Teledata Sound LLC, Home Systems LLC, Portable Management LLC, Null Networks LLC, Meyer Cordless LLC, Mobile Lines LLC, Discobolus Management LLC, Logic Data Funds LLC, And Redirection LLC. This search can be replicated by entering "Algorithm" in the "first name" field and "LLC" in the last name field for "officer" on the Nevada Secretary of State's website. If one then checks the history for each of the companies, one sees that they were all registered in Nevada on March 17, 2005.

[13] Supra note 3.

typically file a statement that shows a chain of title. These documents are typically signed by a person working for, or authorized by the new owner.[14] Thus, these documents provide an opportunity to find the name of a person associated with the patent-owning company.

¶16 For example, Creative Mines LLC is a company that had not been identified as an Intellectual Ventures shell prior to our 2007 report. Using the corporate similarities methodology discussed above, we found Creative Mines by first finding Searete LLC, which is a publicly identified Intellectual Ventures shell company. We next located the manager for Searete in Nevada, which is Nevada Licensing Manager LLC.[15] We next searched for other companies managed by Nevada Licensing Manager, which led us to, led us to consider Creative Mines. When we searched for agreements involving Creative Mines, we found the following agreement[16] which not only identifies Creative Mines but also ties the company to Intellectual Ventures:

> ASSIGNMENT
>
> WHEREAS, Applied Minds, Inc. (hereinafter referred to as ASSIGNOR), having a post office address of 1209 Grand Central Avenue, Glendale, CA 91201, is the assigned owner of an invention entitled "METHOD AND SEQUENCES FOR DETERMINATE NUCLEIC ACID HYBRIDIZATION," as described and claimed in the specification for which an application for United States letters patent was filed on March 28, 2001, and assigned Application No. 09/821,694; and
>
> WHEREAS, Creative Mines LLC (hereinafter referred to as ASSIGNEE), a Delaware limited liability company qualified to do business in Nevada as a foreign limited liability company, having a place of business at 1756 – 114th Ave. S.E., Suite 110, Bellevue, WA 98004, is desirous of acquiring the entire right, title and interest in and to the invention and in and to any letters patent that may be granted therefor in the United States and in any and all foreign countries;

¶17 The 1756—114th Ave. SE, Ste. 110, Bellevue, Washington address has been Intellectual Ventures' address.[17] This address may be found in numerous Intellectual Ventures documents, including the self-reported employer address of Intellectual Ventures provided by co-founder Greg Gorder on the Washington State Bar Association website, which is provided below. Thus, a company found only by the methodology laid out above was shown to be linked to Intellectual Ventures by reviewing the patent file history for a patent owned by the shell company.

¶18 The power of attorney document for the Creative Mines patent applications was signed by Greg Gorder who also placed his personal assistant's phone number at Intellectual Ventures on the power of attorney document.[18] This phone number has Intellectual Ventures' main exchange but is slightly different from the number that Gorder provided to the Washington State Bar Association.[19]

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[14] *Id.*

[15] *See* notes 196-199 in the main article.

[16] The agreement may be found on the USPTO's PAIR database under patent application 09/821,694 (now US Patent 6,949,340; select the "Image File Wrapper" tab and then select the PDF for the document "Oath or Declaration" filed on June 28, 2005. The selection above is found on page 2. The PAIR website may be accessed at http://portal.uspto.gov/external/portal/pair.

[17] *See, e.g.*, Matt Rainey, "Comments on NPRM re Reexam rules," USPTO website, available at: http://www.uspto.gov/web/offices/pac/dapp/opla/comments/ab77/iv.pdf.

[18] *Supra* note 16 at 1.

[19] *See*, Greg Gorder entry on the Washington State Bar Association webpage; search originally conducted June 14, 2007; search repeated Nov. 30, 2011 with same results but for updated address for Intellectual Ventures; WSBA lawyer directory available at: http://www.mywsba.org/default.aspx?tabid=178&RedirectTabId=177&Usr_ID=15288.

PTO/SB/96 (09-04)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

STATEMENT UNDER 37 CFR 3.73(b)

Applicant/Patent Owner: Creative Mines LLC

Application No./Patent No.: 09/821,694 Filed/Issue Date: March 28, 2001

Entitled:

Creative Mines LLC (Name of Assignee), a Delaware Limited Liability Company (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:
1. ☒ the assignee of the entire right, title, and interest; or
2. ☐ an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____%

in the patent application/patent identified above by virtue of either:

A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: William Daniel Hillis To: Applied Minds, Inc.
The document was recorded in the United States Patent and Trademark Office at Reel 011907, Frame 0227, or for which a copy thereof is attached.

2.. From: Applied Minds, Inc. To: Creative Mines LLC
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____
The document was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet.

☒ Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Signature	6/28/2005 Date
Greg Gorder Printed or Typed Name	425-467-2315 Telephone Number
Managing Director Title	

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Washington State Bar Association — Thursday, June 14, 2007

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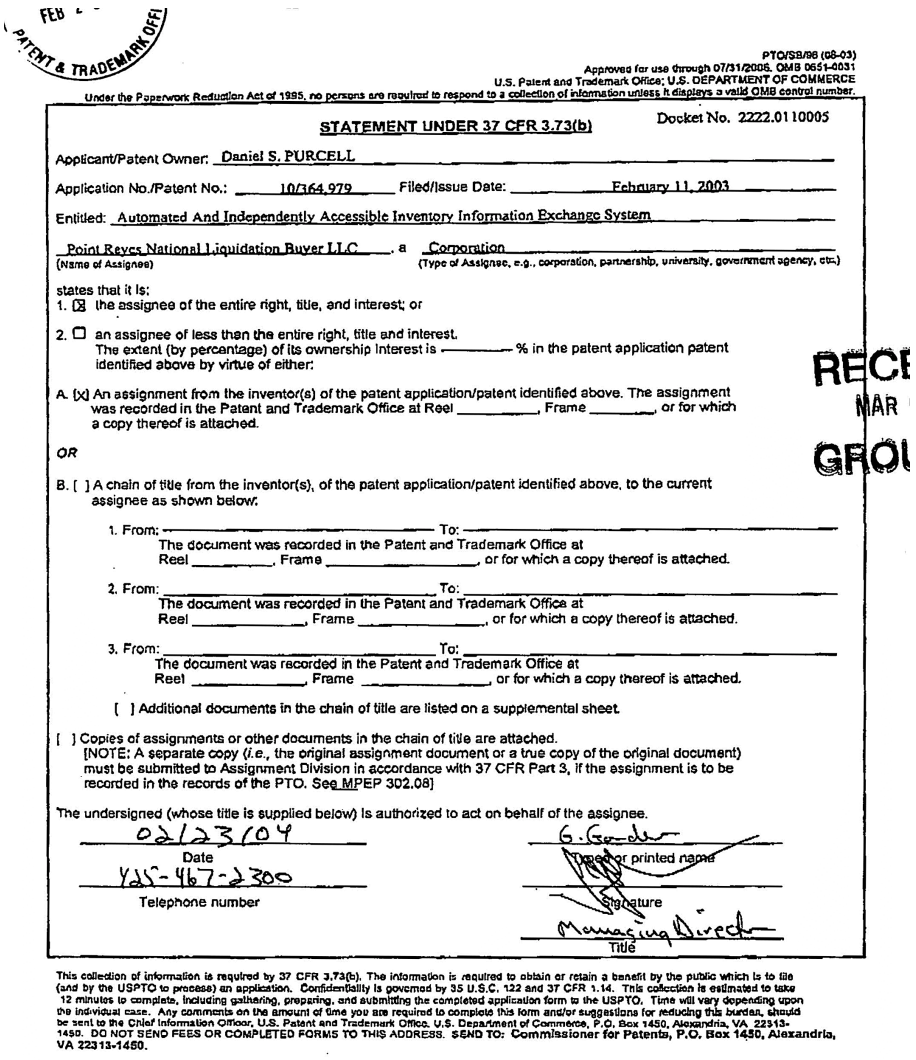
WSBA Lawyer Profile

Member Name	Gregory Gorder	**WSBA Bar #**	15288
Law Firm	Intellectual Ventures	**Admit Date**	11/4/1985
Address	1756 114th Ave SE Ste 110 Bellevue, WA 98004-6931	**Status**	Active
		Phone	(425) 467-2310
		Fax	(425) 467-2350
		Email	

Only active members of the Washington State Bar Association, and others as authorized by law, may practice law in Washington.

The discipline search function may or may not reveal all disciplinary action relating to a lawyer. The discipline information accessed is a summary and not the official decision in the case. For more complete information, call 206-727-8207 and press 7.

¶19 Gorder also signed the power of attorney document for the Point Reyes National Liquidator LLC.[20] On this document, he used Intellectual Ventures' main phone number.



PTO/SB/96 (08-03)
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STATEMENT UNDER 37 CFR 3.73(b)

Docket No. 2222.01100005

Applicant/Patent Owner: Daniel S. PURCELL

Application No./Patent No.: 10/364,979 Filed/Issue Date: February 11, 2003

Entitled: Automated And Independently Accessible Inventory Information Exchange System

Point Reyes National Liquidation Buyer LLC, a Corporation
(Name of Assignee) (Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that it is:
1. ☒ the assignee of the entire right, title, and interest; or

2. ☐ an assignee of less than the entire right, title and interest.
The extent (by percentage) of its ownership interest is _____ % in the patent application patent identified above by virtue of either:

A. [x] An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

OR

B. [ ] A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as shown below:

1. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

3. From: _____ To: _____
The document was recorded in the Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.

[ ] Additional documents in the chain of title are listed on a supplemental sheet.

[ ] Copies of assignments or other documents in the chain of title are attached.
[NOTE: A separate copy (*i.e.*, the original assignment document or a true copy of the original document) must be submitted to Assignment Division in accordance with 37 CFR Part 3, if the assignment is to be recorded in the records of the PTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

02/23/04
Date

425-467-2300
Telephone number

G. Gorder
Typed or printed name

Signature

Managing Director
Title

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you are required to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

D. Two Shell Companies—Ben Franklin and Northstar Acquisitions

¶20 Both Ben Franklin and Northstar Acquisitions are Delaware corporations.[21] Both companies were registered as foreign corporations in Nevada on Oct. 1, 2004.[22] The registered address for both companies in Delaware is 2711 Centerville Road Suite 400, Wilmington, DE 19808. The registered address for both companies in Nevada is 2215-B Renaissance Drive, Suite 5, Las Vegas, NV 89119.

[20] Power of Attorney for US Patent Application 10/364,979, filed Feb. 23, 2004, and signed by Greg Gorder; document available via USPTO PAIR database at http://portal.uspto.gov/external/portal/pair.

[21] Ben Franklin was formed in Delaware on April 22, 2003 and Northstar Acquisition was formed on March 27, 2003, according to the Delaware Secretary of State; available at https://delecorp.delaware.gov/tin/GINameSearch.jsp, enter "Ben Franklin Patent Holding" for the first search and "Northstar Acquisition" for the second search.

[22] *See*, the Nevada Secretary of State's business entity website, available at https://delecorp.delaware.gov/tin/controller, for the first search, enter "Ben Franklin Patent Holding" in the "entity name" field and for the second search, enter "Northstar Acquisitions" in the "entity name" field.

Both companies have also used addresses in Los Altos, California, including the same address in Los Altos, which Intellectual Ventures co-founder Peter Detkin gave to the California Bar Association, the New York Bar Association, and the US Patent & Trademark Office.[23]

¶21 Ben Franklin and Northstar share similarities in patent prosecution. Documents filed in at least one pending application owned by Ben Franklin identify Peter Detkin, an Intellectual Ventures co-founder, as the managing director of Ben Franklin. Other documents filed with the US Patent & Trademark Office for Ben Franklin have been signed by attorney Julia Ceffalo. Washington State Bar Association records indicate that Ms. Ceffalo is an attorney working for the Invention Law Group, PLLC, which seems to be an Intellectual Ventures-created law firm.[24] As shown below, we have found powers of attorney signed by Ms. Ceffalo for both Ben Franklin and Northstar Acquisitions, linking Northstar Acquisition to Ben Franklin and thus to Intellectual Ventures itself. [25] We have repeated this process with thousands of suspected Intellectual Ventures shell companies.

¶22 Ben Franklin obtained a portfolio of 24 patents and 12 published applications from Intellectual Ventures Patent Holding I, LLC in a transaction which recognized that Intellectual Ventures Patent Holding I's name had been changed to Ben Franklin. Intellectual Ventures Patent Holding I obtained these patents from General Magic, Inc., a company that developed a pioneering PDA-like device in the early 1990s but closed its doors in 2002.[26] Intellectual Ventures Patent Holding executed its agreement with General Magic, which was in voluntary bankruptcy, on April 22, 2003.[27] This agreement was recorded in the US Patent and Trademark Office on July 25, 2003.[28]

¶23 The documents filed with the USPTO on Ben Franklin's behalf bear the signatures of Intellectual Ventures co-founders Peter Detkin and Greg Gorder. The documents also link Intellectual Ventures with a Los Altos address that is also found in at least 70 other patent files associated with some of the early Intellectual Ventures shell companies.

¶24 As shown below, Gorder signed the original agreement with General Magic to obtain the patents that eventually became Ben Franklin's portfolio[29]:

---

[23] We learned from Peter Detkin shortly after publication of our first edition that this address was his residential address, and while this address has been available on three public websites, we subsequently removed the address at Mr. Detkin's request.

[24] However, Intellectual Ventures' own automated telephone directory has indicated that Ms. Ceffalo is an Intellectual Ventures employee, based on a call placed to Intellectual Ventures on June 15, 2007.

[25] We have found Ms. Ceffalo's name on power of attorney documents filed with the USPTO for 139 different Intellectual Ventures shell companies.

[26] *See, e.g.*, Wikipedia, "General Magic," available at: http://en.wikipedia.org/wiki/General_Magic.

[27] *See*, file history for US Patent Application 09/712,712, now US Patent No. 6,839,733, "Power of Attorney" filed on April 28, 2004, pages 7-12 which provide the "Asset Purchase Agreement" (see "recitals"), file history available at http://portal.uspto.gov/external/portal/pair.

[28] USPTO Assignment Database, Reel/frame "014313/0813", available at http://assignments.uspto.gov/assignments/q?db=pat&reel=014313&frame=0813.

[29] *See*, file history for US Patent Application 09/712,712, now US Patent No. 6,839,733, "Power of Attorney" filed on April 28, 2004, page 8, file history available at http://portal.uspto.gov/external/portal/pair.

EXECUTION COPY

IN WITNESS WHEREOF, Seller and Purchaser have caused this Agreement to be signed by their respective officers thereunto duly authorized, all as of the date first written above.

INTELLECTUAL VENTURES PATENT HOLDING I, L.L.C.; a Delaware limited liability company
By: Intellectual Ventures Management, L.L.C., its sole manager

By: _____
Name: Gregory Gorder
Title: Managing Director

GENERAL MAGIC, INC., a Delaware corporation

By: _____
Name: Mary E. Doyle
Title: Responsible Individual

¶25 Even though one can find an assignment of the patents from Intellectual Ventures Patent Holding I to Ben Franklin in the USPTO's assignment database, the two companies are actually the same company[30]. In Nov. 2003, Gorder filed this amendment with the Delaware Division of Corporations changing the Intellectual Ventures Patent Holding's name to Ben Franklin:[31]

[30] The USPTO database describes the transaction as a "change of name."

[31] *See*, file history for US Patent Application 09/934,121, "Oath or Declaration" filed on May 20, 2004, page 8, file history available at http://portal.uspto.gov/external/portal/pair. (This document also exposes a management shell company called Acquisition Management LLC since Gorder signed as an officer of this company.)

State of Delaware
Secretary of State
Division of Corporations
Delivered 11:29 AM 11/24/2003
FILED 10:41 AM 11/24/2003
SRV 030759952 - 3649814 FILE

CERTIFICATE OF AMENDMENT

OF

INTELLECTUAL VENTURES PATENT HOLDING I, L.L.C.

The undersigned, being duly authorized to execute and file this Certificate of Amendment, does hereby certify as follows:

1. The name of the limited liability company is Intellectual Ventures Patent Holding I, L.L.C.

2. Paragraph 1 of the Certificate of Formation is amended in its entirety to read as follow:

"1. *Name.* The name of the limited liability company is Ben Franklin Patent Holding LLC."

IN WITNESS WHEREOF, the undersigned has duly executed this Certificate of Amendment on the 18th day of November, 2003.

Acquisition Management LLC, Manager

By: _____
Gregory Gorder, Managing Director

¶26 Interestingly, both Gorder and Detkin have served as "managing directors" of Ben Franklin in a two-month time period, according to power of attorney documents filed in Intellectual Ventures cases. The oldest document shows Detkin[32] as managing director and the newer document shows Gorder as managing director[33]:

[32] *See*, file history for US Patent Application 09/712,712, now US Patent No. 6,839,733, "Power of Attorney" filed on April 28, 2004, page 2, file history available at http://portal.uspto.gov/external/portal/pair.

[33] *Supra* note 29 at "Power of Attorney" filed on May 20, 2004.

Registration No. 37,575; Judith U. Kim, Esq., Registration No. 40,679; Timothy J. Shea, Jr., Esq., Registration No. 41,306; Patrick E. Garrett, Esq., Registration No. 39,987; with full power of substitution, association, and revocation, to prosecute said application and to transact all business in the United States Patent and Trademark Office connected therewith.

For the purpose of PAIR, the Customer Number is 26111.

The undersigned hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send all correspondence to:

Customer Number 26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934.

Direct telephone calls to (202) 371-2600.

FOR: BEN FRANKLIN PATENT HOLDING LLC

SIGNATURE: _____

BY: GREGORY GORDER

TITLE: MANAGING DIRECTOR

DATE: 11 MAY 2004

33,876; Robert C. Millonig, Esq., Registration No. 34,395; Michael V. Messinger, Esq., Registration No. 37,575; Judith U. Kim, Esq., Registration No. 40,679; Timothy J. Shea, Jr., Esq., Registration No. 41,306; Patrick E. Garrett, Esq., Registration No. 39,987; with full power of substitution, association, and revocation, to prosecute said application and to transact all business in the United States Patent and Trademark Office connected therewith.

For the purpose of PAIR, the Customer Number is **26111.**

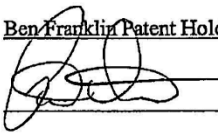
The undersigned hereby grants said attorneys the power to insert on this Power of Attorney any further identification that may be necessary or desirable in order to comply with the rules of the U.S. Patent and Trademark Office.

Send all correspondence to:

Customer Number 26111
STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 New York Avenue, N.W.
Washington, D.C. 20005-3934.

Direct telephone calls to (202) 371-2600.

FOR: Ben Franklin Patent Holding L.L.C.

SIGNATURE: 

BY: PETER DETKIN

TITLE: MANAGING DIRECTOR

DATE: 26 APRIL 2004

¶27 More importantly, an even-later-filed power of attorney document by Intellectual Ventures' attorney Julia Ceffalo associates the 171 Main Street, Los Altos address with Ben Franklin, and thus with Intellectual Ventures itself. As noted above, this address is found in at least 70 other USPTO case files for the shell companies discussed in this report.[34]

[34] *See*, patent file history for US Application 11/314,002, now US Patent 7,266,499, power of attorney filed on Feb. 16, 2006, available at http://portal.uspto.gov/external/portal/pair in the "image file wrapper" tab under "power of attorney" for "02-16-2006."

PTO/SB/80 (12-03)
Approved for use through 11/30/2005, OMB 0651-0035
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

POWER OF ATTORNEY TO PROSECUTE APPLICATIONS BEFORE THE USPTO

I hereby appoint:

[X] Practitioners associated with the Customer Number: 26111

OR

[ ] Practitioner(s) named below (if more than ten patent practitioners are to be named, then a customer number must be used):

Name	Registration Number

as attorney(s) or agent(s) to represent the undersigned before the United States Patent and Trademark Office (USPTO) in connection with any and all patent applications assigned only to the undersigned according to the USPTO assignment records or assignment documents attached to this form in accordance with 37 CFR 3.73(b).

Assignee Name and Address:

Ben Franklin Patent Holding LLC
171 Main Street, #271
Los Altos, CA 94022

A copy of this form, together with a statement under 37 CFR 3.73(b) (Form PTO/SB/96 or equivalent) is required to be filed in each application in which this form is used. The statement under 37 CFR 3.73(b) may be completed by one of the practitioners appointed in this form if the appointed practitioner is authorized to act on behalf of the assignee, and must identify the application in which this Power of Attorney is to be filed.

SIGNATURE of Assignee of Record
The individual whose signature and title is supplied below is authorized to act on behalf of the assignee

Name	JULIA HEANEY		
Signature		Date	29 JULY 2004
Title	AUTHORIZED PERSON	Telephone	

This collection of information is required by 37 CFR 1.31 and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

¶28 The earliest Intellectual Ventures transaction that we have found occurred on Feb. 18, 2001 between Purple Techno Solutions LLC and Venturemakers LLC of Campbell, Calif.[35] Interestingly, Purple Techno Solutions did not become incorporated until Dec. 9, 2003.[36] The Venturemakers' transaction was not recorded with the USPTO until August 18, 2005, well after Purple Techno Solutions had been formed as a company. A power of attorney for Purple Techno Solutions from 2005 is provided below, which also links this company to the Los Altos address.

[35] *See*, USPTO Assignment Database for US Patent "6285986", available at http://assignments.uspto.gov/assignments/q?db=pat&pat=6285986.

[36] *See*, Delaware Secretary of State business entity search available at https://delecorp.delaware.gov/tin/GINameSearch.jsp.

Pursuant to 37 C.F.R. §3.71, the assignee hereby states that prosecution of the above-referenced patent application is to be conducted to the exclusion of the inventor(s).

Send all future correspondence to: Jeffrey C. Hood
Meyertons, Hood, Kivlin, Kowert & Goetzel, P.C.
P.O. Box 398
Austin, Texas 78767-0398
(512) 853-8800

Assignee of Interest: Purple Techno Solutions LLC
171 Main St #271
Los Altos CA 94022

Dated: 16 MAY 2005 By: Julia Ceffalo
Title: AUTHORIZED PERSON

Washington State Bar Association Sunday, June 03, 2007

Public Member Sponsor Help

WSBA Lawyer Profile

Member Name	Julia R Ceffalo	WSBA Bar #	30460
Law Firm	Invention Law Group PLLC	Admit Date	11/14/2000
Address	677 120th Ave NE Ste 2A-248 Bellevue, WA 98005-3045	Status	Active
		Phone	(425) 467-2270
		Fax	(425) 679-0570
		Email	

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The discipline search function may or may not reveal all disciplinary action relating to a lawyer. The discipline information accessed is a summary and not the official decision in the case. For more complete information, call 206-727-8207 and press 7.

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¶29 As noted above, Julia Ceffalo[37] has also signed at least 139 power of attorney documents in Intellectual Ventures-related cases, including the authorization for Northstar Acquisition's pending patent applications.[38] To our knowledge, Northstar Acquisitions had not been previously identified as an Intellectual Ventures shell prior to the first edition of our report. Ben Franklin and Northstar Acquisitions are Delaware corporations and both companies have the same registered addresses in Delaware and Nevada. Interestingly, both companies have also used addresses in Los Altos, California -- including the address in Los Altos, which Intellectual Ventures co-founder Peter Detkin gave to the California Bar Association, the New York Bar Association, and the US Patent & Trademark Office.[39]

[37] Washington State Bar Association records for Julia Ceffalo first accessed on June 3, 2007 and most recently accessed on Nov. 30, 2007, record available at http://www.mywsba.org/default.aspx?tabid=178&RedirectTabId=177&Usr_ID=30460.

[38] *See*, prosecution file history for US Application 09/750,592, now US Patent 7,433,683, power of attorney filed on Sept. 7, 2004, available at http://portal.uspto.gov/external/portal/pair under "Image File Wrapper.

[39] *See*, Northstar assignment records at reel/frame 018222/0226, available at the USPTO assignment database at http://assignments.uspto.gov/assignments/q?db=pat&reel=018222&frame=0226, and see California Bar Association record for

¶30 Northstar Acquisitions obtained a portfolio of 17 patents and 3 published applications from Pentech Financial Services, Inc. on July 22, 2003, the agreement for which was recorded on Sept. 12, 2003.[40] Pentech obtained the patents from Mobility Network Systems, Inc. The portfolio appears to largely comprise the former assets of mDiversity, Inc., although some of the patents originated with SC-Wireless, Inc., SC-Wireless, Ltd., and Cellular Telecom, Ltd., and Hitachi Metals, Ltd.

Peter Detkin, available at http://members.calbar.ca.gov/fal/Member/Detail/134799, originally accessed on June 3, 2007 and most recently accessed on Nov. 30, 2007, records are the same albeit a slight change in telephone number. As noted, we learned from Peter Detkin shortly after publication of our first edition that this address was his residential address, and while this address is available on three public websites, we have obscured the address at Mr. Detkin's request.

[40] *See*, USPTO Assignment Records for US Patent "5751516," available at http://assignments.uspto.gov/assignments/q?db=pat&pat=5751516.

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REVOCATION OF POWER OF ATTORNEY WITH NEW POWER OF ATTORNEY AND CHANGE OF CORRESPONDENCE ADDRESS

Application Number	09/750,592
Filing Date	December 28, 2000
First Named Inventor	Bhupal Kanaiyala Dharia
Art Unit	2631
Examiner Name	Not yet assigned
Attorney Docket Number	012.P2012

I hereby revoke all previous powers of attorney given in the above-identified application.

☐ A Power of Attorney is submitted herewith.

OR

☑ I hereby appoint the practitioners associated with the Customer Number: 00043813

☑ Please change the correspondence address for the above-identified application to:

☑ The address associated with Customer Number: 00043813

OR

☐ Firm *or* Individual Name					
Address					
Address					
City		State		Zip	
Country					
Telephone		Fax			

I am the:

☐ Applicant/Inventor.

☑ Assignee of record of the entire interest. See 37 CFR 3.71.
Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

SIGNATURE of Applicant or Assignee of Record

Name	Julia Ceffalo, Authorized Person, Northstar Acquisitions LLC		
Signature			
Date	06/Aug/2004	Telephone	

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below*.

☑ *Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.36. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: **Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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