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**AVOIDING THE IP DARWIN AWARD:
IP STRATEGIES FOR THE STARTUP**

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AVOIDING THE IP DARWIN AWARD: IP STRATEGIES FOR THE STARTUP¹

A practical guide to surviving the natural selection process as a technology startup. Discussed are strategies, and mistakes to avoid, when applying scarce resources to the development and protection of intellectual property assets.

Natural Selection Theory Applied to Startups

In 1859 Charles Darwin revived the theory of evolution in *The Origin of Species*, which presented evidence that species evolve over time to fit their environments better. Darwin called his mechanism for evolution “natural selection.” Fast-forwarding to today, a tradition has developed on the Internet known as the “Darwin Awards” that applies natural selection theory to human behavior by commemorating individuals who contribute to the improvement of our gene pool by removing themselves from it in idiotic ways.² Annually, candidates are considered that exhibit astounding misapplication of judgment, resulting in their own demise.³ Through a well-developed set of rules and vetting process, the Darwin Awards are then bestowed to the wildest examples and published as a sort of mock celebration of the subject’s self-removal of incompetent genetic material from the human race. Example winners include:

- A man smashed by the anvil he rigged above his balcony to kill those squawking pigeons.
- An executive who fell from a high rise building when he shoulder-butted a floor-to-ceiling plate glass window to demonstrate its safety to his acrophobic secretary.
- A tourist gored to death during the "Running of the Bulls" while riding naked in a shopping cart piloted by his drunken friend.

In the technology business world, there is a natural selection process as well that applies to the startup (i.e., pre-revenue or profit) company. To emerge from the primordial ooze to a position of sustainability in the marketplace, a startup is best served by avoiding the condition of “rusty chromosomes” when it comes to dealing with intellectual property issues.

¹ May 19, 2004. Authored by David L. McCombs of Haynes and Boone, LLP.

² www.darwinawards.com.

³ According to the Darwin Awards website, “The potential winner must therefore render himself deceased, or at least incapable of reproducing. If someone does manage to survive an incredibly stupid feat, then his genes de facto must have something to offer in the way of luck, agility, or stamina. He is therefore not eligible for a Darwin Award, though sometimes the story is too entertaining to pass up and he earns an Honorable Mention.”

The IP Darwin Award—Avoid These Mistakes

As lawyers who frequently deal with early stage companies and venture capitalists, we see intellectual property mishaps that are costly or fatal, and for the most part could have been avoided. Fortunately, it is not very often we see a startup that has acted in such a reckless manner that it (truly) should qualify for an “IP” Darwin Award. Technologists and their business team are, by and large, very well educated, street-smart, and conscientious. But there are examples. And there are certainly more “Honorable Mention” cases out there than there should be. Most situations discussed below are not so extreme as to justify an “IP Darwin Award,” but instead reflect the natural consequences of inattention to IP. Regrettable instances of a lack of attention to intellectual property (IP) are usually a function of scarce resources, short-term prioritization defects, and a bit of naiveté. Avoid these mistakes. Consider the suggestions offered to head off problems pertaining to intellectual property in a startup business.

1. Benign Neglect of IP

We note that problems tend to befall those startups that adopt a policy of “benign neglect” of intellectual property, characterized by habits that rely on luck. The startup avoids the fundamental issue of ownership of the technology. The startup does not think about the interplay between various forms of IP. The startup avoids altogether the burden of cost and diversion to get patents. The startup secures only an insignificant number of patents (or ones that are poorly crafted). The startup turns a blind eye to competitor portfolios and assumes that cheap licenses will be available if a challenge arises.

In keeping with these observations, and in recognition of the balance needed at the early stage between cost and protection, what follows is a discussion of specific tactical mistakes to avoid and recommendations along the way. Suggestions are geared to the startup that must walk an austere path limited to “just the essentials.”

2. Starting a New Company While Still Employed; or Hiring Key Employees from a Competitor

The entrepreneur currently employed in a well-developed technology company decides it is time to pursue the dream of starting a new company. Operating in stealth mode, the entrepreneur continues to draw a salary but works on the business plan and technology in the evenings and on weekends. Even in situations where the entrepreneur does not use the employer’s equipment in the process, there is a potential for later claims of breach of the employee’s duty of undivided loyalty.

Most common, however, are the claims of theft of trade secrets and the inevitable disclosure of trade secrets by the nature of the new startup’s business. This can arise when employees with key technical skills or market knowledge are hired into the startup from the competition. In the context of highly specialized software developers, there is a particularly high

potential for claims of copyright infringement and trade secret misappropriation where it is difficult to separate coding techniques within the software engineer's undocumented skill set from items she developed for the former employer.

Case Studies:

DSC Communications Corp., (n/k/a Alcatel USA Inc.) v. Evan Brown⁴

DSC/Alcatel prevailed in a suit against a former employee Evan Brown who claimed that he rather than DSC—owned rights to a software idea that he asserted had long existed in his head.

While employed at DSC, Brown sought a release to pursue his idea for converting machine-executable binary code into high-level source code; reverse-engineering the intelligence from existing programs and recoding it into high-level language; and converting certain machine code into C language source. According to Brown, he began negotiating an agreement whereby DSC would pay Brown a percentage of savings realized by the company if the idea was successful and a percentage of income from third-party sales, but the company later halted negotiations. Brown stated that when he refused to reveal his idea, DSC fired him and sued him.

The court granted summary judgment to DSC on its breach of contract and declaratory judgment claims, concluding that the company's employment contract with Brown was valid and enforceable. The court also held that, pursuant to the contract, the company owned full legal right, title and interest to Brown's "solution." The court ordered that Brown was obligated to disclose the solution to DSC and, in addition, pay DSC's legal fees.

Alcatel USA Inc. v. Monterey Networks, Inc.⁵

Alcatel sued Monterey for trade secret misappropriation alleging inevitable disclosure claims against a group of former Alcatel employees that left to engage in optical switch development for Monterey. Monterey was later acquired by Cisco Systems which has since successfully defended these and related claims in the Eastern District of Texas.

Alcatel based its case against Monterey on allegations of trade secret misappropriation, and the inevitable disclosure of trade secrets, resulting from Monterey's hiring of approximately ten former Alcatel engineers. According to Alcatel, Monterey's highly abbreviated development schedule for an optical cross-connect product competitive to Alcatel's, known as the Wavelength Router, was made possible as a result of

⁴ Alcatel USA, Inc. f/k/a DSC Communications Corp. v. Brown, No. 199-00596-97 (Tex. Dist. Ct. 219th Dist. July 26, 2002).

⁵ Alcatel USA, Inc. v. Cisco Systems, Inc. 239 F.Supp.2d. 660 (E.D. Tex. 2002).

misappropriation of Alcatel’s intellectual property. Specifically, Alcatel argued that software engineers at Monterey were able to unfairly duplicate what they had created at Alcatel. Resulting from this alleged misconduct, Alcatel sought over \$500 million in damages.

Through three and a half years of litigation, Cisco succeeded in having all of Alcatel’s claims dismissed on summary judgment. Interestingly, Alcatel asserted a novel damages theory, alleging the value of the misappropriated trade secrets to be equal to the purchase price that Cisco paid for Monterey in 1999. As proposed by Alcatel, the damages should be measured as the “actual market value of Monterey at the time of acquisition by Cisco minus Monterey’s value but for the misappropriation”⁶ or \$560 million. The court characterized Alcatel’s damages model as being “contingent upon numerous dubious and tenuous inferences” and dismissed the lawsuit.

3. No Assignment of IP from Founders, Employees, Consultants, or Third Parties

It is important to determine up front who owns the IP and obtain a written assignment. Startups often involve a small team of founders in which the skill sets are segmented among “technology,” “business,” and/or “finance” people, for example. At times this diverse group will strike a deal amongst themselves concerning operation and ownership of the company, and even mortgage their castles in the sky to “friends and family” investors, without first nailing down exactly the origins—and acceptable conditions of assignment—of the IP forming the basis of the venture. Sometimes, when pressed, the relevant founder(s) embarrassingly do not own all of the rights purported, which must be properly investigated so that necessary third rights may be secured.

The discipline of rigorous documentation on IP issues should be equally applied to the employees and consultants of a startup. Employees and consultants should enter into agreements with the company assigning IP rights, requiring restrictions on non-disclosure, and prohibiting misappropriation or misuse of trade secrets. The startup should also consider the use of non-compete agreements and non-solicitation agreements that would bar former employees from soliciting current employees and clients under terms that meet reasonableness and legal consideration standards of the relevant jurisdiction.

In the context of joint ventures pertaining to technology development or the license of technology from third parties, the manner in which rights are parsed and shared as conditions evolve over time is an important topic of consideration. A startup might find itself in a situation, for example, where a sponsored research project generates a co-inventor on important technology at a university where there exists rigid or perhaps intractable policies on IP transfer—all to the detriment of the startup years down the road.

⁶ *Id.* at 668.

Case Study:

Fieldturf, Inc. v. Southwest Recreational Industries, Inc.⁷

Fieldturf is the exclusive licensee of U.S. Patent No. 4,337,283 directed to artificial turf as an alternative to natural grass for playing surfaces for athletic games. The inventor of the '283 patent, Frederick Haas Jr., assigned the patent to a Louisiana partnership that, through a succession of entities, conveyed the exclusive license rights to Fieldturf. Fieldturf asserted the '283 patent against Southwest, the maker of AstroTurf™ (a carpet-like turf system) and AstroPlay™ (a rubber and sand-filled system), on the basis that Southwest's manufacture of AstroPlay™ was alleged to infringe the patent. On appeal from a Kentucky district court, the Federal Circuit dismissed the patent claim because Fieldturf did not have standing to enforce the patent because the licensing agreement was nothing more than a bare license that did not grant the right to enforce the patent, either explicitly or impliedly.

4. Freely Disclosing IP without a Confidentiality Agreement

Consistent use of non-disclosure agreements (NDAs) is advised at all stages of the company's life. It is often overlooked by entrepreneurs who eagerly present their business plans containing the crown jewels to potential investors, vendors, joint-venturers, or facilitators in an effort to get the company financed or a product built. It is recognized that most venture capitalists will not accept an initial business plan if an NDA must be executed by them first. Accordingly, the initial business plan submitted to potential investors should not contain crucially sensitive information. Such can be shared later after once there is sufficient interest and the NDA is signed.

Case Study:

Dreamcatcher Software Development, LLC. v. Pop Warner Little Scholars, Inc.⁸

Dreamcatcher Software Development, LLC ("Dreamcatcher") is a Connecticut organization that developed a software program called Keystroke Administrator for automating the management of paperwork and other administrative functions associated with the operation of a local Pop Warner youth football and cheerleading sports league. (the "League"). Dreamcatcher attempted to enlist the League to aid in the sales and marketing of its software to other organizations within the League. To that end, the Executive Director of the League entered into a nondisclosure and confidentiality agreement with Dreamcatcher that stated the League was "interested in examining a

⁷ 357 F.3d 1266 (Fed. Cir. 2004).

⁸ 298 F.Supp.2d 276 (D.Conn. 2004).

product idea of [Dreamcatcher] and may wish to become a strategic development partner of [Dreamcatcher], or a customer beta site for the product and in connection therewith will be given access to certain confidential and proprietary information.”⁹

Subsequently, according to Dreamcatcher, the League then secretly used Dreamcatcher ideas to develop its own administrative software, in violation of the agreement. Dreamcatcher sued, alleging breach of contract and trade secret misappropriation.

As stated in a newspaper article this January about the litigation, an attorney with a local firm, William J. Cass, “called the issues in the case a ‘classic example’ of the importance of contract and trade secret protections for a software developer.”¹⁰ “It’s a classic problem that confronts people who have developed software,” said Cass. “They get into a joint venture relationship and start to tell people how the software works. They may have copyrighted to source code, but unless there is a clear copying of that code, there’s no theory under copyright to go and sue someone. But what Dreamcatcher did,” Cass added, “was smart, with its confidentiality agreement. One of the first things you can do to protect intellectual property is through contracts—confidentiality agreements for employees, joint development agreements, and disclosure agreements.”¹¹

5. Failing to Document IP or Archive Early Software Versions

The startup should document the existence of all of its intellectual property, and maintain it for appropriate archiving purposes. The discipline of gathering IP and establishing early documentation procedures can ensure the capture of information that the company may not know existed. In the world of patents, documentation is critical when the need arises later to establish a date of conception of invention for purposes of patent priority. In the world of copyrights, documentation may be needed to later establish dates of authorship of programs or infringement in litigation. If early versions of software are overwritten, or copies of the full program are not kept that correspond to the identifying portions submitted with an application for copyright registration, the startup may find itself in a later copyright litigation faced with a dismissal for lack of evidence.

Inventorying of all owned IP preferably will include documenting the historical development process for each form of IP, the creation and modification dates, the individuals responsible for creation, and information regarding development expenditures (internal and external). Documentation of all licensed IP, both inbound and outbound, is likewise advisable.

⁹ *Id.* at 280.

¹⁰ Thomas B. Scheffey, *Confidentiality Pact Key in Software Fight*, Conn. L. Trib., Jan. 27, 2004.

¹¹ *Id.*

Case Studies:

Dr. Henry Huang v. California Institute of Technology¹²

A federal district court in Los Angeles ruled that researcher Henry Huang’s claim that he co-invented the automatic DNA sequencer used to map the human genome—arguably one of the most important advances in biology in the 20th century—was not supported by sufficient laboratory notebook evidence.

Huang contended that the work he did as a post-doctorate fellow at the California Institute of Technology from 1997 to 1982 was used to develop the automatic DNA sequencer. Although Mr. Huang was viewed as a credible witness, he could not meet his burden of establishing inventorship by clear and convincing evidence. Most of the documents relied on to support his claim of inventorship were, in contrast to bound and witnessed lab notebooks, in the form of “loose-leaf sheets that were not consistently dated and could not be corroborated by anyone.”¹³

Chen v. Bouchard¹⁴

In a patent interference relating to a patent owned by Bristol-Myers Squibb Company concerning fluoro taxols, the court held that the plaintiff had failed to prove that he had reduced the subject matter to practice or conceived the invention before the defendants' effective filing date; therefore, the plaintiff was not entitled to the benefit of the filing dates of his earlier patent applications. While notebook records existed, they were not sufficiently corroborated and insufficient evidence existed concerning Bristol-Myers Squibb’s policies regarding maintenance of laboratory notebooks.

Geoscan, Inc. v. Geotrace Technologies, Inc.¹⁵

The Fifth Circuit upheld a district court’s grant of summary judgment for the defendant on software copyright infringement claims because the plaintiff was unable to establish a valid copyright registration for the original source code asserted in the case. Despite the fact that the plaintiff had submitted an application, the proper fee, and copies of the work, the court found that at the time the suit was filed, the plaintiff’s copyright registration was incomplete. Correspondence with the Copyright Office showed that plaintiff had not submitted the original source code to its software, but instead had submitted later versions of the source code.

¹² No. CV 03-1140 (C.D. Cal. 2003); see also, Brenda Sandburg, *Lab Notebooks Not Enough Proof for DNA Patent*, *The Recorder*, Feb. 23, 2004. Order by judge on Feb 17 2004.

¹³ *Id.*

¹⁴ 347 F.3d 1299 (Fed. Cir. 2003).

¹⁵ 226 F.3d 387 (Fed. Cir. 2000).

6. Failing to Obtain Patents

There are many obvious reasons why a technology startup need patents:

- To stop others. Patents prevent copying and define an exclusive market niche.
- To stop others from stopping you. Patents provide freedom of action by serving as a deterrent to others asserting their patents against you. They offer a means to avoid an injunction and to offset or avoid the payment of royalties to others through cross-licensing.
- To generate revenue. Patent royalties generated through licensing enable the patent owner to benefit from the markets developed by others.
- Marketing. Patents are marketing tools. They are used to package technology in a presentable and attractive manner to investors. They increase the perceived value of the technology. Sometimes they generate trade press.

For the startup, a sense of practicality is needed when it comes to patenting. Resources may not be available for scorched-earth filings on every possible inventive-nuance springing forth from engineers in ramp up mode. Yet, to go without any patents in a competitive technology business is folly. How does one strike the right balance?

The answer is dictated in part by the particular technology industry. Where an industry falls in a range of “discrete” versus “cumulative” innovation can impact the level of patent activity. In the biotechnology and pharmaceutical industries, for example, technology innovations are discrete in the sense that they are relatively self-contained around a technique or product, with fewer interrelated patents and relatively clear zones of patent protection. Contrast this with the semiconductor industry, which is at the opposite end of the spectrum. For semiconductors, innovation is highly cumulative. Advances are closely linked to prior advances. The result is a stacking of technologies. And lots of patents. The volumes of patents result in the existence of patent thickets and a practice of *détente* that relies on assured mutual destruction and expensive cross licensing. With these barriers it is often difficult for the newcomer to “get in the game.” Other industries, e.g., telecommunications, medical device, software, and consumer electronics, each fall in varied locations along this spectrum. Thus generalizing, we see lower volume patenting being necessary at the “discrete” end of the innovation spectrum, while higher volume patenting occurs at the “cumulative” end.

Within the framework of the startup’s particular industry, the startup ought to prioritize its patent filings according to the following guidelines:

- Avoid statutory bar dates. A patent application may not be filed in the U.S. if the invention has been published anywhere or has been in public use or on sale in this country more than one year prior to the filing date. An invention can be considered “on sale” where it has only been “offered for sale,” not actually sold. In most foreign countries there is no one year grace period for public disclosures.¹⁶
- Pursue a targeted approach. Budgetary considerations will normally dictate against the shotgun approach of patenting everything in hopes of capturing what may later be important in a field of marginal patents. Efficiency is served by targeted patenting, with intense oversight, geared toward obtaining well developed patents that seek to best predict the course of competition.
- Support the business plan. First obtain patents most directly supportive of the company’s business plan. Make sure the company’s patent attorney sees the business plan.
- Recalibrate. The patenting strategy should be recalibrated regularly as the business plan evolves. With every amendment during prosecution, the strategy, technology, and business conditions should be reevaluated for potential impact on the course of patent claiming.
- Put the money in the specification. The patent specification should be as thorough as it can be. It should articulate as many details, variations, and future possibilities as can be imagined at the time. This can allow the company to “mine” the patent specification for years to come through continuing applications, with new claims being filed for subject matter as it becomes commercially important. For example, if the invention pertains to a surgical implant, the specification ought to describe surgical procedures and instruments that could be involved, even if they are beyond the scope of the current business.
- Patent along the critical path (i.e., at the “bottlenecks”). Look for features or steps critical to commercial implementation that no competitor can avoid, and patent at these bottlenecks. Making sure the startup has thought through all of these possibilities sometimes results in supplemental inventing. This approach

¹⁶ Most industrialized foreign countries (not Taiwan) are members of the Paris Convention which provides that one who files a patent application in any member country has up to one year to file subsequent applications in other member countries and be able to backdate the effective filing dates of the subsequent applications to that of the first filed application. Therefore, an application filed in the U.S. before any public disclosure will enable subsequent filings in other member countries within one year, even if an intervening public disclosure occurs.

assumes awareness of competitor activity, or potential activity, and crafting claims that cannot be easily avoided.

As suggested by the case studies below, a thoughtful approach to patenting has its rewards.

Case Studies:

NTP, Inc. v. Research In Motion, Ltd.¹⁷

In the early 1990's engineer and inventor, Thomas Campana, and several other co-inventors at his small private company developed wireless email technology and diligently patented dozens of inventions in the field. Although Campana was never able to commercialize his product, he formed a holding company, NTP Inc. and has successfully asserted 5 patents against Research in Motion (RIM), maker of the popular BlackBerry handhelds.¹⁸ Of the sixteen claims involved in the suit, two were found infringed on summary judgment. A jury then determined that RIM infringed the remaining fourteen claims.¹⁹

RIM was ordered to pay \$53.7 million for damages and attorneys fees. The judge in the case issued an injunction enjoining RIM from selling, using or importing BlackBerry handhelds and server software in the U.S. The injunction has been stayed while the case is appealed.²⁰

E-Pass Technologies, Inc. v. 3COM Inc. and Palm Inc.²¹

E-Pass is seeking patent royalties from Palm and 3COM for the sale of Palm's handheld devices. E-Pass's patent (U.S. 5,276,311) is directed to an electronic multifunction "card" comprising a storage accommodating a plurality of individual data sets representing individual single-purpose cards, and at least two display boxes in which data can be displayed by electronic activation. Initially, the federal district court ruled that Palm did not infringe because Palm's handheld devices are not electronic, multifunction "cards." The Federal Circuit recently reversed the judgment of non-infringement, holding that the E-Pass patent is not limited to a credit-card sized device, as erroneously concluded in the district court litigation. The Federal Circuit noted that under the correct claim construction, a palm-sized personal digital assistant (PDA) may or may not, either

¹⁷ 270 F.Supp.2d 751 (E.D. Va. 2003).

¹⁸ Michael Barbaro, *BlackBerry's Maker Infringed on Patent*, Washington Post, Nov. 22, 2002 at E02.

¹⁹ NTP Inc. v. Research in Motion, Ltd., 270 F.Supp.2d 751 (E.D. Va. 2003).

²⁰ NTP Inc. v. Research in Motion, Ltd., WL 23100881 (E.D. Va 2003).

²¹ 343 F.3d 1364 (Fed. Cir. 2003).

literally or under the doctrine of equivalents, infringe the E-Pass patent. The case was remanded to the district court for analysis under the broader claim construction.²²

Related litigation pertaining to E-Pass's patent is pending against Microsoft and HP in Texas.²³

eSpeed (f/k/a ETS) v. Chicago Board of Trade and Chicago Mercantile Exchange²⁴

eSpeed, a subsidiary of Cantor Fitzgerald, is a developer of electronic trading technology. It owns the Wagner patent (U.S. 4,903,201) directed to automated futures trading systems in which transactions are completed by a computerized matching of bids and offers of futures contracts on an electronic platform.²⁵ The computerized bid matching systems covered by the Wagner patent replace the traditional futures exchanges in which traders stand in pits and yell out bids and offers (the well-known, so-called "open outcry" trading pit).

In 2001 eSpeed purchased the Wagner patent and sued The Chicago Board of Trade and Chicago Mercantile Exchange in Dallas. Following preliminary claim construction rulings favorable to eSpeed, the litigation settled with substantial license payments to eSpeed. eSpeed has since obtained substantial third party licensing revenue under license agreements providing for scheduled payments to eSpeed in excess of \$30 million through 2007.²⁶

7. Obtaining Poorly Crafted Patents

No one wants a patent that misses the mark. After the expense and time required to get a patent, a patent owner does not want to later hear a federal judge say: "Plaintiff's patent could have easily been written to reflect the construction plaintiff attempts to give it today. It is the job of the patentee, and not the court, to write patents carefully and consistently. The court cannot rewrite the patent, and, accordingly, I grant defendant's motion [finding non-infringement]."²⁷

²² *Id.*

²³ E-Pass Technologies v. Microsoft Corp. et al., No. 01-CV-439 S.D. Tex. filed motion to resume Oct. 7, 2003).

²⁴ Electronic Trading Systems Corporation v. The Board of Trade of the City of Chicago et al., No. 3:99-cv-01016 (N.D. Texas 1999).

²⁵ The Wagner patent was granted in 1990 and pioneered the computerized automation of futures trading. It has been cited by over 120 subsequently issued patents for electronic trading. The inventor, Susan Wagner, a former executive director of the Commodities and Futures Trading Commission, developed the technology in Dallas, Texas.

²⁶ <http://www.espeed.com/articles/article08272002.htm>

²⁷ Chef America, Inc. v. Lamb-Weston, Inc., 358 F.3d 1371 (Fed Cir. 2004).

Avoidance of poorly crafted patents is best achieved as follows:

- Thorough patenting according to the guidelines above.
- Perform a design-around analysis. An analysis of potential design alternatives that circumvent the claims should be performed before filing the patent application, and new claims drafted to plug the holes. The analysis should again be performed upon allowance of and before their issuance, taking into account existing third party products and estoppels (if any) resulting from prosecution.
- Claim both broadly and deeply. Ensure that, in addition to broad coverage of the inventive concepts, claims exist that also cover fall-back positions and the specifics of the commercial embodiments. This helps preserve validity.
- Target the claims to the right entity or acts of infringement. Claims may be directed to different entities and acts within the stream of commerce. Claims where no single entity can infringe are not effective. It is important to ensure that the claims allow the right entity to be isolated for suit for direct infringement (e.g., the competitor, not just the end user). For example, in the telecommunications industry, patents in the field of call-center voice response units (VRUs) might be directed to equipment manufacturers, telecommunications service providers, and/or businesses having call centers. As another example, the manner in which software is claimed can vary, dictating the potential enforcement value of the patent. Claims may be directed to processes performed by the end user of the software. Claims may also be directed to a program stored on a computer-readable media (so-called program product claims, or “Beauregard” claims, after the Federal Circuit case confirming their patentability).²⁸ Claimed this way, the infringing article is the medium (e.g., disk) on which the program is stored, allowing enforcement against the software publisher rather than limiting enforcement to just the end users of the program.
- Avoid estoppels in prosecution. In 2002, the U.S. Supreme Court substantially changed the legal effect of amending patent claims. The Court’s decision in *Festo* says that a narrowing amendment to a patent claim may give rise to a broad reaching estoppel that later bars asserting infringement under the doctrine of equivalents.²⁹ Particularly, “[a] patentee’s decision to narrow claims . . . may be

²⁸ In re Beauregard, 53 F.3d 1583 (Fed. Cir. 1995).

²⁹ Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558 (Fed Cir. 2000) (en banc) (“Festo I”), vacated by 522 U.S. 722 (2002) (“Festo II”), and opinion on remand, Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359 (Fed Cir. 2003) (en banc) (“Festo III”).

presumed to be a general disclaimer of the territory between the original claim and the amended claim.”³⁰ Thus when a patentee originally claimed subject matter alleged to infringe but then narrowed the claim in response to a rejection, “courts may presume the amended text was composed with awareness of this rule and that the territory surrendered is not an equivalent of the territory claimed.”³¹ The patentee may overcome the presumption of an estoppel if the patentee can “show that at the time of the amendment one skilled in the art could not reasonably be expected to have drafted a claim that would have literally encompassed the alleged equivalent.”³² These decisions heighten the need for extra care in crafting the scope of subject matter to be surrendered in prosecution. The patentee does not want to be put in the awkward position, now with the benefit of hindsight, of having to argue why he could not previously have been expected to have drafted a claim literally covering the subject matter in question.

The case studies below illustrate unfortunate situations that can face a patent owner when a patent is placed under the microscope.

Case Studies:

Chef America, Inc. v. Lamb-Weston, Inc.³³

The court declined to rewrite the "heating" limitation in a claim in a patent for a process of producing a dough product, and held that the patent was not infringed based on the ordinary meaning of the terms in the patent claims. The court explained that its settled practice is to construe a patent claim as written, not as the patentees wish they had written it.

The patentee’s claim required “heating [the] batter-coated dough to a temperature . . . of about 400 degrees F.”³⁴ The problem is that if the patentee heated its own dough to 400 degrees as the claim instructs, “it would be burnt to a crisp” with the resultant product of such heating being something that, “in the words of one of the attorneys in the case, resembles a charcoal briquette.”³⁵ What the claim should have said, but failed to say, was

³⁰ Festo II at 740.

³¹ Festo II at 741.

³² Festo II at 741. This can be shown by one of the following three criteria: (1) the equivalent may have been unforeseeable at the time of the amendment; (2) the rationale underlying the amendment may bear no more than a tangential relation to the equivalent in question; or (3) there may be some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. Festo III at 1365.

³³ 358 F.3d 1371 (Fed. Cir. 2004).

³⁴ *Id.* at 1372.

³⁵ *Id.* at 1373.

that it is the *oven* in which the dough is placed, that should be heated to 400 degrees F. But the claim did not say “heat *at* a temperature,” it said “heat *to* a temperature.”

On appeal from a finding of no infringement, the Federal Circuit stated: “We agree with the district court that the claim means what it says (the dough is to be heated ‘to’ the designated temperature range) and therefore affirm. . . . Plaintiff’s patent could have easily been written to reflect the construction plaintiff attempts to give it today. It is the job of the patentee, and not the court, to write patents carefully and consistently.”³⁶

PSC Computer Products, Inc. v. Foxconn International, Inc.³⁷

The court held that the patent for a metal retainer clip to secure a heat sink to a microchip disclosed the use of plastic parts but did not claim it, and therefore the use of plastic clips was dedicated to the public. A patent applicant who discloses but does not claim subject matter has “dedicated” that matter to the public and cannot reclaim the disclosed matter under the doctrine of equivalents.

The specific language of the written description of the patent stated that “ ‘the elongated strap [] is made of a resilient metal such as stainless steel although other resilient materials may be suitable for the strap,’ . . . [6,061,239] patent, col. 4, ll. 49-51, and that ‘other prior art devices use molded plastic and/or metal parts that must be cast or forged which again are more expensive metal forming operations.’ *Id.*, col. 2, ll. 39-41.”³⁸ According to the court, these passages demonstrate that the patentee “knew that other materials, including plastic, could be used to make ‘parts’ of his invention. . . . The ‘239 patent, however, does not claim plastic parts, but instead includes an explicit ‘metal’ limitation. [Therefore,] the disclosure of unclaimed materials in the ‘239 patent’s written description dedicated those materials to the public.”³⁹

Talbert Fuel Systems Patents Co. v. Unocal Corp.⁴⁰

In a patent case on remand from the Supreme Court for further consideration in light of the decision in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.* (2002), the Federal Circuit again held that the presumption of the surrender of the range between the plaintiff’s amended claims and the prior art could not be rebutted as to the defendant’s accused reformulated gasoline product.

³⁶ *Id.*

³⁷ 355 F.3d. 1353 (Fed. Cir. 2004).

³⁸ *Id.* at 1356.

³⁹ *Id.*

⁴⁰ 347 F.3d.1355 (Fed. Cir. 2003).

The patent claims are directed to a reformulated gasoline product that include the limitation, added in prosecution, of a gasoline boiling point range of 120°F to 345°F. This limitation was added to overcome prior art having a boiling point range of 390°F to 420°F. The patentee argued that the claims should extend, under the doctrine of equivalents, to the defendant's accused product having a boiling point range of 373°F to 472°F. In response, the court ruled that the patentee presumptively disclaimed, and is estopped, from asserting a range of equivalents beyond the literal language of the claims. Under *Festo*, the patentee surrendered the range between the amended claims (345°F) and the prior art (390°F) and is unable to show that at the time of the amendment one could not have reasonably been expected to have drafted a claim that would have literally encompassed the alleged equivalent (373°F). "It cannot now be credibly argued that it was unforeseeable that fuels with a boiling range significantly higher than 345°F, approaching the prior art fuels, would be equivalent to the fuels as limited by Talbert's amendments. In view of Talbert's clear disclaimers of such higher-boiling fuels, the now-asserted equivalence cannot be deemed to have been unforeseeable when Talbert's amendments were made."⁴¹

Microsoft Corp. v. Multi-Tech Systems, Inc.⁴²

The Federal Circuit affirmed non-infringement based on the district court's construction of the claims in five patents for personal computer-based systems for simultaneously transmitting voice and data to a remote site, as being limited to transmissions over a telephone line and excluding the Internet.

Multi-Tech (formerly Net2Phone, Inc.) has patents directed to simultaneous transmission of voice and computer data that it asserted against Microsoft's TCP/IP protocol technology. The court concluded that the patents are limited to communications "over a telephone line" and exclude "communications over a packet-switched network such as the Internet." The court limited the "sending," "transmitting," and "receiving" language in the claims to exclude the Internet because of (1) statements made by the patentee in the "Summary of the Invention" and (2) certain gratuitous remarks made by the patentee in prosecution.

Referring to the "Summary of the Invention," the court notes that the patent statements are not limited to "describing a preferred embodiment, but more broadly describe the overall inventions of all three patents." Further, the statements "characterize the entire 'personal communication system' as enabling communications between a local site and a remote site over a telephone line."⁴³ Referring to the specification as a whole, the court

⁴¹ *Id.* at 1359-1360.

⁴² 357 F.3d. 1340 (Fed. Cir. 2004).

⁴³ *Id.* at 1348.

notes that “the specification refers to data transmission ‘over’ and ‘through’ a telephone line roughly a dozen times. Nowhere does it even suggest the use of a packet-switched network.”⁴⁴ Based on the foregoing, the court concludes that the language of the patent leads to the “inescapable conclusion” that the communications are over a telephone line and not a packet switched network.

Referring to the prosecution, the court points to a gratuitous description made by the patentee in the “Remarks” of an amendment, which the court characterizes as a “summary of the invention” made before addressing the Section 103 rejection. “In response to the examiner’s first office action, Multi-Tech took the opportunity to provide a ‘summary of the invention’ before addressing the § 103 rejection. In stated: In their specification, Applicants disclose a communications system which operates over a standard telephone line.”⁴⁵ The court treats this as an argument-based estoppel limiting the scope of the claims to communications over a telephone line and not a packet switched network, i.e., the Internet. Also, although these statements were made during the prosecution of one patent, they are applicable to the other patents stemming from the same parent application.

Judge Rader dissented, making the following insightful points:

- (1) The claim language (as all parties agree) in no way rules out the use of a packet-switched network like the Internet;
- (2) The specification does not foreclose the use of the Internet;
- (3) The prosecution history falls short of a “clear and unambiguous” disclaimer of Internet coverage; and
- (4) Finally, the court improperly applies the prosecution history of a later patent to limit the narrower claims of a patent issuing before such statements were made.

In plain language, Judge Rader observed: “The court today asserts that the language ‘over’ and ‘through’ a telephone line somehow requires the claims to cover only those communication networks where nothing but a telephone line lies between the two end sites. To my eyes, that leap in logic is akin to Evel Knievel jumping the snake river gorge on a motorcycle. Like Mr. Knievel, this court’s conclusion falls short. . . . If I travel over the river and through the woods to grandmother’s house, this court would conclude that I have traveled through nothing but rivers and woods. The terms ‘over’ and ‘through’ do not denote the sole medium of travel.”⁴⁶

⁴⁴ *Id.* at 1349.

⁴⁵ *Id.*

⁴⁶ *Id.* at 1355.

8. Failing to Take Advantage of Provisional Patent Application Procedures

A “provisional” patent application is a lower cost first patent filing that, without all of the formalities of a regular patent application, establishes an early effective filing date. It has a pendency lasting 12 months and must be superceded by the filing of a corresponding non-provisional application within that time in order to benefit from the earlier filing date of the provisional application.

Provisional patent filings are attractive because of the lower initial investment required, with one full year to assess the invention’s commercial potential before committing to the higher cost of filing and prosecuting a regular application. The provisional application enables immediate commercial promotion of the invention with greater security against having the invention stolen. It establishes an official United States patent application filing date and begins the Paris Convention priority year. It allows for the filing of multiple provisional applications for patent and for consolidating them in a single §111(a) non-provisional application for patent. (We refer to this as a provisional “stacking” strategy).

With all of the advantages, cautions abound when it comes to provisionals. Danger exists in their potential for imperfect use. An extreme example is when, the night before a trade show, the applicant slaps a cover sheet on a PowerPoint presentation and files it a provisional application. This is risky because in order to obtain the benefit of the filing date of a provisional application, the subject matter claimed in the later-filed non-provisional application must have adequate support for it in the provisional application. Specifically, the disclosure in the provisional must meet the (1) “enablement,” (2) “written description,” and (3) “best mode” requirements of the patent law under 35 U.S.C. § 112. Provisional applications that are not well thought out are likely to suffer deficiencies of inadequate disclosure for later claimed subject matter. Also, when claims are included in a provisional application, if they are not carefully crafted they can interject estoppel problems into the prosecution history as the claims become later amended in the regular application.

The inherent risks associated with provisionals thus can create a bias against their use.⁴⁷ But this should not dissuade the startup from their use in appropriate circumstances. Examples include the following:

- Securing an early filing date. The earlier a competent, thorough patent disclosure can be filed, the better. Filing a good provisional application is better than filing nothing at all, to secure an early filing date or to avoid a statutory bar.

⁴⁷ “[P]oor use of provisional applications has tended to color the views even of experienced patent practitioners. Often practitioners comment on their use of provisional applications with words such as ‘I don’t file them. They’re worthless.’ When pressed regarding the bases for these assertions, the practitioner will often identify the problems . . . without appreciating that those problems are self-inflicted rather than inherent.” William B. Slate, *In Defense of the Misunderstood Provisional Application*, Journal of the Patent and Trademark Office Society (March 2003).

- “Stacking” to capture improvements. During the development phase of a startup, the R&D effort can be fast and furious. A strategy of “stacked” provisional applications offers an approach to capturing improvements and establishing a filing date for them at multiple milestones of the development plan. Very inexpensively. How it works is that an initial provisional is filed with as complete of a disclosure as possible. As improvements are made, second, third, and later provisional applications are also filed during the priority year directed to such improvements. At the end of the priority year, a non-provisional application is prepared and filed that rolls up within it the disclosure of all the stacked provisionals, and claims priority to them. Multiple non-provisional applications may be filed in a cascading fashion capturing subject matter from provisionals within its priority year.

Thus there are many situations where the use of provisional applications is beneficial. Inherent risks are minimized with careful attorney supervision and ongoing follow up after the initial filing, as details become available for augmentation of the available disclosure.

Case Study:

New Railhead Mfg. Co. v. Vermeer Mfg. Co. & Earth Tool Co.⁴⁸

The Federal Circuit affirmed a decision that the specification provided in a provisional application did not adequately support claims which issued in the subsequent utility patent, 5,899,283. Specifically, the provisional application did not disclose the later claimed drill bit angle for drilling rock formations. Because the utility patent was not entitled to the filing date of the provisional application, the ‘283 patent became invalid under the on-sale statutory bar.

9. Engaging in Unnecessarily Expensive Foreign Patenting

Does the startup really need a patent in Brunei? Monaco? Foreign patenting is expensive, even when fees are deferred using the Patent Cooperation Treaty (PCT) procedures. It is well recognized that by far, the United States patent provides the best “bang for the buck” in a cost-versus-value comparison with other countries. This is due to the size of the U.S. market and strength of the U.S. court system. Nonetheless, startups doing business in countries outside the U.S. or faced with overseas competitors are equally remiss if they do not have a foreign patenting strategy. They need to carefully consider what it ought to be.

Recommended is a foreign patenting strategy that looks carefully at the business plan in terms of potential foreign markets, competitors, and cost-benefit considerations. Factors to consider in deciding where to foreign file include the following:

⁴⁸ 298 F.3d 1290 (Fed. Cir. 2002).

- Commercial relevance of the product to the company
- Where competitors are located
- Whether the competitor primarily imports into the U.S.
- Size of market in different countries
- Ability to detect infringement
- Scope of the claims

When the technology involved is software, consideration should also be given to its protectability in the countries of interest. Generally, the trend in industrialized countries is in favor of adopting protection for software-related inventions. The European Patent Office (EPO) law regarding patentability of software is better developed than that of the laws of some of the individual EPO countries. This suggests protection in Europe is best achieved by filing an EPO application which then designates the desired EPO member countries.

In the EPO, software is patentable if the application of the software has a “technical effect.” “Thus, for example, software that controls the timing of an electronic engine is patentable under this doctrine, whereas software that detects and corrects contextual homophone errors (e.g., ‘there’ to ‘their’) is not.”⁴⁹ Fenwick and West LLP has published a “2004 International Legal Protection for Software Chart” which provides useful updates concerning the patentability of software in various countries around the world.⁵⁰

10. Failing to Investigate Competitor Patents

Should a startup adopt a “head in the sand” strategy when it comes to investigation of competitors’ intellectual property? Blissful ignorance can avoid a finding of enhanced damages for willful patent infringement if the startup happens to be sued. Also, if you going looking for trouble, you might find it. And whether you look or not, if your company is successful, trouble will surely find you.

Despite these admonitions, the startup is playing Russian roulette if it does not know where it fits in the competitive landscape. Development of the business plan will give a pretty good idea. The startup should take the next step and also drill down into the IP position of key

⁴⁹ 2004 *Report on International Legal Protection for Computer Software*, Fenwick & West LLP, The Computer & Internet Lawyer, Volume 21, Number 4 (April 2004) at page 5.

⁵⁰ *Id.* at pages 8-13.

competitors. As explained above, this is an important component of development of the company's own IP in staking out good patent coverage. It is also an important facet of overall risk management.

Organized investigation, however, should not be confused with unsupervised identification and examination of third party patents. The startup does not need its people flipping over rocks and writing reckless emails. When a suspect patent is identified, the startup should be mindful to avoid creating evidence of internal communications that may later be misconstrued.

11. Failing To Seek Infringement/Validity Opinions Or Counseling When Made Aware Of Third Party Patents.

Under 35 U.S.C. § 284, damages for patent infringement may be increased up to three times the amount found or assessed in exceptional cases premised on willful infringement or bad faith. Thus, as stated by the Federal Circuit, "An alleged infringer who intentionally blinds himself to the facts and law, [and] continues to infringe, [] can hardly be surprised when his infringement is found to be willful."⁵¹

When faced with knowledge of another's patent, the startup is best served to investigate the matter and obtain proper legal advice on issues of patent infringement or validity. An independent opinion of non-infringement, when competently prepared and properly supported, can obviate the risk of enhanced damages even if there is a subsequent finding of infringement.

Case Study:

Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.⁵²

The Federal Circuit affirmed a Western District of Texas jury verdict of willful infringement based upon evidence that the defendant, TriTech, failed to obtain any competent legal opinion of non-infringement or invalidity after being notified by the plaintiff of its potential infringement. Further, the record showed that TriTech had developed the infringing devices by copying the plaintiff's patented parts. Additionally, it was shown that TriTech had been aware of the plaintiff's patent three years before suit was filed and had even attempted an unsuccessful design around.

⁵¹ Kloster Speedsteel A.B. v. Crucible Inc., 793 F.2d. 1565 (Fed. Cir. 1986).

⁵² 246 F.3d 1336 (Fed. Cir. 2001).

12. Asserting Patents Without a Well Defined Objective or Failing to Assert Patents, Resulting in Loss of Rights

Aggressive pursuit of litigation can lead to a world of trouble and divert the company from execution of its business plan. Even the most cost-effective patent case is expensive in terms of both legal fees and employee time. Therefore litigation should not be pursued lightly. When it is pursued, the end-goal should be clear from the outset. Do the company's strategic directives require that the defendant be enjoined, or are payment of royalties a sufficient outcome? Does the royalty base justify the cost of litigation? Are counterclaims likely?

As a startup, sometimes litigation is the best business alternative. The startup has great technology but it can't possibly scale up quickly enough to satisfy the size of the market. Large companies are out there already with the necessary infrastructure. They have evolved into the same technology space or, worse yet, have chosen to reject commercial relations with the startup in favor of developing their own solution. Litigation can level the playing field.

Case Studies:

Eolas Technologies v. Microsoft Corp.⁵³

Eolas obtained a \$520 million jury verdict against Microsoft for infringement of Eolas's patent covering browser plug-ins. The Eolas patent (U.S. 5,838,906) is for a Web browser that can execute a remote program, like Flash or Media Player, so that content from the remote program will be displayed on the browser window. The jury found the patent valid and infringed, and awarded Eolas \$1.47 per unit sold. Following the verdict, the World Wide Web Consortium (W3C), the standard setting body for the Web, requested reexamination of the patent based upon newly identified prior art. The reexamination was granted in October 2003 and, in light of the reexamination, the court has ruled that Microsoft may continue to sell its infringing web browser.⁵⁴ Microsoft has also appealed the district court decision.

Masimo v. Nellcor⁵⁵

Masimo obtained a \$134 million jury verdict against Nellcor, a division of Tyco Healthcare, for Nellcor's infringement of several Masimo patents directed to pulse oximeters used for non-invasive monitoring of vital signs. The jury found that Nellcor willfully infringed four of Masimo's patents on its read-through-motion pulse oximetry

⁵³ No. 99c326 (N.D. Ill August 11, 2003).

⁵⁴ Eolas Technologies v. Microsoft Corp., 2004 WL 170334 (N.D. Ill. Jan. 15, 2004).

⁵⁵ Press Release, www.masimo.com (March 26, 2004).

technology. The jury also rejected Nellcor's claim that Masimo's sensor infringed a Nellcor patent.

This was the second time Masimo sued Nellcor. Masimo sued previously on a different patent related to its adaptive filter signal processing technology, and lost. The Federal Circuit affirmed the finding of no infringement.⁵⁶

Regarding the recent success against Nellcor, Joe E. Kiani, Founder and CEO of Masimo stated: "Having sued several years ago, it was a great relief to finally have our day in court, and also be cleared of all patent infringement accusations made by Nellcor against Masimo."⁵⁷

Conclusion

Once having avoided the scythe of the natural selection process by avoiding critical mistakes, the former startup may then look to more sophisticated approaches to management of its IP. Later stage companies will still regularly follow many of the fundamentals discussed here as part of a their long term approach to intellectual property development, protection, and revenue generation.

⁵⁶ Masimo Corp. v. Mallinckrodt, Inc., 2001 WL 894278 (Fed. Cir. Aug. 8, 2001).

⁵⁷ Joe E. Kiani, Masimo press release, March 26, 2004 at www.masimo.com