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IP Basics: Advice on IP Careers for Those with Technical Backgrounds

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Introduction

The way we live changes continually as we reap the benefits of rapidly improving technology. Like technology, law also touches virtually every aspect of our lives and often interacts with technology. Technology makes the Internet possible, but the law increasingly determines such things as the technical specifications of licenses, the privacy rights of individuals and the necessary compensation for creators of various kinds of content.

Sometimes, as with email, technology influences the practice of law. More often, however, it is the other way around. Also, in our complex society, lawyers and technologists must cooperate in addressing many important questions. Were the shreds of "pot" found in the car really tobacco? Did the axle break, causing the car to hit the tree, or did the axle break because the car hit a tree?

This article discusses the many legally-related job opportunities for people with technical training, whether they be engineers, physicians or scientists. These range from those who need only fairly basic legal knowledge, for example, to deal with contracts or regulatory processes to those who become full-fledged attorneys and practice patent and other intellectual property law.

Law-Related Opportunities for Technologists without Formal Legal Training

Problems involving both technology and law are common and growing in number and complexity. It may come as a surprise, but most of these are resolved by people trained only in technology. Imagine, for example, two engineers negotiating a construction contract. Having agreed on specifications, dates and price, they will probably use a contract form drafted much earlier by an attorney neither of them knows. Later, if one firm disputes whether the other is meeting its responsibilities, the grievance could be resolved by an engineer-arbitrator who, after a "trial," would determine the legal rights and responsibilities of the parties and possibly award money. Only if the losing party refused to comply with the arbitrator's decision, would lawyers be needed.

Or, picture two scientists dealing with a regulatory issue, for example whether a device's shielding adequately prevents broadcast interference. One might represent a manufacturer; the other, the Federal Communications Commission. Again, attorneys would only be needed if they (or their supervisors) couldn't resolve matters without going to court. Thus, many without law degrees do the type of work often done by attorneys. Whatever law they need is generally learned on the job or at short seminars and professional meetings. Also, the University of New Hampshire School of Law offers programs for people who wish to know more about law without having to become a lawyer.

Patent Law as a Special Case

Owners of patents can prevent others from using new technologies for at least seventeen years. The Patent and Trademark Office (PTO), an agency of the federal government, grants patents only after close scrutiny.

Not everything new is patentable. It is not in the public interest to give an inventor exclusive rights merely because he or she was the first to need some technology -- particularly where it was available to anyone who cared to look.

To seek patents on behalf of others, one must have the proper technical credentials and pass an examination offered by the PTO. Non-lawyers who are qualified to sit for (and pass) that examination become patent "agents." In an important 1963 case, the U.S. Supreme Court recognized that patent agents "practice law" and that states are generally free to regulate such practice. Yet, it forbade states from interfering with the practice of non-lawyers admitted before the PTO. According to the PTO, there were over 10,000 active agents in 2011.

The most important service patent agents provide is drafting patent "claims." A patent's value is primarily determined by the scope and validity of those claims. Patents may cover the equivalent of a square inch of Arctic tundra or a square mile of Manhattan. If claims are too narrow, others can practice an invention without entering the territory reserved for the exclusive use of the patent holder. If they are too broad, covering what is already known or what is obvious to anyone skilled in the relevant technology, a court can find them invalid. Effective claim drafting and patent prosecution requires a unique combination of good technical understanding, oral and written communication skills, and basic legal judgment.

However, patent agents are very restricted in what they can do. Unlike lawyers, agents cannot, for example, file appeals from the PTO to the courts, negotiate and draft licenses to use patented and unpatented technology, sue those who breach contracts or use software without licenses, or advise on ways to protect trade secrets. (Further, attorneys need no technical credentials to do anything other than prosecute patents before the PTO. Remarkably, as noted below, those involved in law and science or technology outside of the patent area, rarely do.)

In any event, many, if not most, patent agents eventually go to law school. According to the PTO, there were over 31,000 active patent attorneys in 2011. Most work under the supervision of lawyers and are apt to resent that attorneys often doing essentially the same work enjoy higher status and make perhaps $100,000 more per year.

The Rewards of Being a Patent Lawyer

Patent law usually involves more than drafting and prosecuting claims -- although it usually requires the capacity to evaluate their scope and validity. One lawyer, after practicing for 23 years in a private firm, explained the satisfaction of his profession:

I enjoy patent law because, almost by definition, I am working at the forefront of technology. I am fortunate in that my present clientele includes corporations and individuals with whom my engineering background is directly in point. My education in technology continues every day. Whereas before I learned the theory behind pertinent technology in academic surroundings, now I learn it from clients. I have become increasingly aware of and involved in the business affairs of my clients. I especially enjoy licensing activity. Each license situation is unique and has its own technological and economic dynamics. In licensing, I can be innovative and creative to the benefit of my client. There is more of a people-aspect to licensing, with a different set of problems and a different measure of satisfaction for a successful result.

Engineers, physicians and scientists can do well in law school and be successful in any legal area that interests them. As a pilot-lawyer should have some edge in aviation law, a background in chemical engineering should be useful in something like environmental law. Yet, as mentioned above, other than for patent prosecution, nothing other than a law degree is required to practice in any area of law. In fact, lawyers filling environmental or other non-patent positions that involve technical issues are unlikely to have formal technical training. Hiring attorneys who lack such training rarely cede any advantage to those do and are often (sometimes very) put off by, e.g., engineer-lawyers incapable of recognizing that technical issues may be only marginally relevant in disputes over the use of technology. So, the key consideration in

finding a job in most law-technology areas is not whether you have a technical background but whether you have the skills and attitude hiring lawyers are looking for.

That aside, lawyers with technical training are scarce and patent law is a field with considerable demand. (As mentioned above, there are about 31,000 patent lawyers, but more people than that usually graduate from U.S. law schools each year.)

This translates into comparatively high salaries for those with good legal training as well as good technical training relevant to important areas of technological growth. (Assuming the PTO would allow someone with a degree in buggy whip engineering, for example, to sit for the patent exam, passage would hardly generate a slew of lucrative job offers!) A 2010 survey of members of the American Intellectual Property Law Association found associates under the age of 35 to be making $181,000 to $220,000 (25th to 75th percentile) and senior lawyers over age 60 to be making in excess of $350,000 (75th percentile,

Thus, many technically trained lawyers do intellectual property work because it is interesting, because they tend not to enjoy special advantages in other areas with both technical and legal components, and because potential earnings are very attractive.

The Golden, Global Age of Intellectual Property Law

Intellectual property law includes perfecting, protecting and transferring patents, copyrights, trade secrets and trademarks. These various components are discussed in brief articles in my "IP Basics" section.

Intellectual property rights are critical to continued investments in research and development, and, hence, the competitiveness of U.S. industry in domestic and world markets. As in the situation, for example, of those who invest in real estate development, or oil and gas exploration, if companies that discover new technology and bring it to market, often at great expense, could not profit from their efforts, they would soon be out of business. Thus, intellectual property rights are among the key tools of entrepreneurs and, in varying degrees, furnish an important foundation for the formation and growth of all companies.
This is said to be the information age. It is commonly thought that ideas have replaced the iron ore and oil of the industrial age as essential raw materials. Because ideas cannot be literally fenced in or locked up, they must be protected by patents, trade secrets, trademarks or copyrights -- the main forms of intellectual property.

It has not been long since patents were generally regarded as the tools of "monopolists." But encouraging technological innovation has come to be viewed as important to preserving the U.S. standard of living in the face of international trade imbalances -- and intellectual property is usually seen as offering needed encouragement. For example, to secure uniform and reasonable recognition of patent rights, Congress, in 1982, gave one court exclusive jurisdiction over all U.S. patents. Later, to reduce the risk of illegal copying, it provided that software cannot be rented.

Most other countries also recognize that intellectual property improves general standards of living and considerable progress has been made toward harmonizing global laws.

In 2008, Law360, a news letter for business lawyers, discussed a survey that found intellectual property lawyers at the 250 largest law firms in the U.S. to be better paid than other lawyers and more satisfied with their jobs. What was meant by "intellectual property lawyers" is unclear, but it is sure to have included patent lawyers.

Becoming a Lawyer

Full-time law school takes three years and culminates in the Juris Doctor. A J.D. from a school accredited by the American Bar Association qualifies a person to take the bar exam in any state. As mentioned above,

college graduates need not pursue any particular line of study to be accepted into law school. At the University of New Hampshire School of Law, for example, over a third of our students have degrees in engineering or science, and many have had extensive experience or advanced degrees, including M.D.s and Ph.Ds. -- the last being particularly helpful for biotechnology patent careers.

LSATs and Grades. In law school admissions, an acceptable score on the Law School Admissions Test (LSAT) and good grades are important. Also, grades are usually evaluated in light of the difficulty of particular courses and the undergraduate schools' grading practices. But at least some admissions committees recognize that high grades are particularly difficult to get in engineering.
Specialty programs. Admissions personnel at schools with few specialized courses emphasize that patent or environmental lawyers must have a sound grasp of legal fundamentals. This is true, but it ignores several very important points.

- Core legal curricula throughout the U.S. are very similar. Subjects such as legal research and writing, civil and criminal procedure, contracts, property and constitutional law are usually required.
- Of the 80 to 90 credit hours typically obtained in pursuit of the JD, a third or more will be elective. Few schools require many courses beyond the first year.
- Law school electives, of necessity, also cover fundamentals, but from differing perspectives. This could explain why a study of two graduating classes at a public law school found that enrollment in "fundamentals" courses did not correlate nearly as strongly with bar passage as one might expect. One even correlated negatively!

Pay particular attention to schools with a good selection of electives in your area of special interest, but it is unwise to pay much attention to rankings (see my comment about IP program rankings). The alternative is to have to select many courses having little or no personal appeal.

Cost of education. When comparing the costs of programs, be sure to consider the cost of living -- as well as income lost while in school and because of slow advancement. In light of such factors, tuition differentials may seem less significant, or disappear altogether. One of our graduates wrote:

A senior partner... told me that my... work product was indicative of a third to fourth year associate, even though I have only been here 8 weeks. He then stated that my performance, thus far, reflected very favorably upon the quality of the IP education available at [Franklin Pierce, now UNH Law]. .... Please continue the good work....

Mike Crosby '97

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