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Filing a Patent Application: Step by Step¹

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Background:

A patent can protect a machine, process, or article of manufacture. For example, depending on the territory of the patent, a patent holder typically has the right to exclude all others in the territory from making, using, selling, offering for sale, or importing implementations of their protected invention for 20 years. While strategically obtained patents provide a flexible and powerful form of IP protection, patents require a relatively protracted application process. While patent protection is not necessarily appropriate for every innovation, all strategic innovations should be evaluated by a patent attorney for possible patent protection. This evaluation process should consider the prior art, the significance of the innovation to the innovator's revenue model, competitive issues, a cost-benefit analysis of public disclosure of the innovation², and a host of other factors. The discussion below focuses on the process of obtaining a patent once a decision has been made to file a patent application.

A patent is a right granted to a party in exchange for full disclosure of the protected innovation and, when the patent expires, the innovation enters the public domain. In order to be enforceable, a patent application must include a full technical description of the invention. A patent application has two primary components: (1) a detailed technical description of the invention (known as a "specification"), and (2) a set of legal statements that define the legal scope of the innovation to be protected (known as "claims").

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¹ This paper assumes that the reader already has decided to pursue a patent application for specific subject matter. However, the decision to pursue patent protection is one that should be made strategically with input from technologists and legal counsel. This process is not covered in this paper.

² A patent application will be available to the public approximately 18 months after filing. Therefore, in some instances, it is better to maintain the innovation as trade secret and to avoid filing a patent application.

Step 1: Conduct a Patent Search

The first threshold of obtaining a patent will be demonstrating that your invention is new. A preliminary patent search could indicate that your invention, while ingenious, was previously invented by others. You can search published patent applications and patents at the United States Patent and Trademark Office at the following link <http://patft.uspto.gov/>. If you don't find anything very similar to your invention, you should contact a patent attorney and discuss whether a more formal patent search and/or a search of non-patent literature should be conducted.

Step 2: Provisional or Non-provisional

If you are reasonably confident that your invention is novel, you can proceed with the process. It may be appropriate to file a "provisional" patent application. This form of patent application has few formal requirements and can be filed inexpensively; with the full costs of a patent application being deferred for up to a year. However, there are risks associated with filing any patent application that is not drafted in a manner that fulfills the legal requirements noted above. A patent attorney can advise you whether or not a provisional application is appropriate or if you will be better filing a full "non-provisional" patent application initially.

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Step 3: Preparation of the Patent Application

The patent attorney must have a full understanding of the innovation being protected. This understanding is gained largely from the innovators of course. However, it is critical that you work with a patent attorney with significant experience in the relevant technology and business space. In many cases, existing development documents, such as functional specifications, engineering drawings and flow charts, can be leveraged to educate the patent attorney for preparing a patent application. Typically, the patent attorney will begin with drafting claims and discuss the same with the innovators to make sure that the focus of the patent application is appropriate. Subsequently, the patent attorney will prepare a full draft patent application for review and comment by the innovators. This step is critical because the inventors will have to verify that they understand the patent application and that the patent application is directed to their innovation. Once the patent application, including the specification and claims, is prepared and finalized, it can be filed with the United States Patent and Trademark Office or any other relevant patent office(s) throughout the world.³

Step 4: Patent Prosecution

The process for obtaining a patent based on the patent application is referred to as "patent prosecution." While the process varies somewhat from one jurisdiction to another, the primary aspects of the process are generalized below.

Once the patent application has been filed, a patent examiner will review the application, conduct a search of similar known technology ("prior art") and issue an "Office Action" (referred to as an "Examination Report" in some countries). The vast majority of applications are rejected in the first Office Action for one or more reasons, some of which are discussed below. The patent applicant then has a period of time, typically 3-6 months, to respond in writing with permissible changes to the application and/or arguments in favor of patentability of the patent claims in the application. The patent attorney will ordinarily prepare the Response to the Office Action with technical input from the innovators. Applicants can usually schedule a telephone or video call with the examiner to discuss any apparent misunderstandings or ambiguities before the applicant files a Response to the Office Action. If this first Response does not fully satisfy the examiner, another Office Action will be issued articulating the examiner's updated position. This cycle (Office Action and Response), typically occurs 2 or three times before the application is

³ Generally, a patent is only effective in the jurisdiction in which it is filed and the decision in which jurisdiction(s) to file is a strategic business decision that is not addressed in this paper.

allowed, abandoned by the applicant, appealed, or extended through various procedural mechanisms based on the jurisdiction of the patent application. The patent prosecution process, from filing of application to grant of a patent, ordinarily takes between 2 and 4 years.

As noted above, the patent examiner will evaluate the patent application during the patent prosecution process, and likely set forth bases of rejection(s) of the patent application. The threshold consideration applied by an Examiner for granting patent protection is that the innovation must have a real-world application and is not merely an idea. In the European Patent Office (EPO) this is referred to as “industrial application.” In the US Patent Office (USPTO) this is referred to as “patent-eligibility”. This standard varies from jurisdiction to jurisdiction and has, at times been thought to exclude software innovations from patent protection. This topic is the subject of significant debate. However, the “short answer” is that most software innovations can be the subject of patent protection if presented in the appropriate manner in the patent application.

In addition to industrial application/patent-eligibility, a patent examiner will compare the patent claims to the prior art yielded by the above-noted search to determine if the invention is novel. If deemed to be novel, the examiner will also determine if the patent claims demonstrate nonobviousness, i.e. a significant advancement over the prior art and not merely an obvious variation of, or combination of, prior art. If the patent examiner determines that all of these conditions (patent-eligibility, novelty, and nonobviousness) are satisfied, the patent application will be “allowed”, and a patent will be granted upon payment of a grant fee.⁴

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Summary:

Depending on the technical complexity of the subject matter, and the legal complexity of any rejections made during patent prosecution, the entire process of preparing and prosecuting a patent application in the US, typically costs between \$10k and \$20k (US) over the 2-4 year period of the process.⁵ There is additional cost for filing a corresponding application in other jurisdictions, the magnitude of which varies from one jurisdiction to another.

Obtaining a patent can be relatively costly and time consuming. These resources must be balanced against the likelihood of obtaining a patent application and the benefit of such protection to the applicant to determine whether patenting any specific innovation provides an acceptable return on investment. Of course, in many cases the return on investment is significant because a strategic patent can serve to provide the owner with an exclusive market for roughly 20 years.

⁴ There are other secondary requirements for a patent grant that are not discussed herein
⁵ This estimate includes attorney fees and Patent Office fees.



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