

PROTECTION OF INTELLECTUAL PROPERTY IN THE USER INTERFACE

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Abstract The advent of information and communication devices with novel input techniques on touch screens and in particular the excitement about the launch of Apple's iPhone have shown that user interface design has become one of the most important factors for purchase decisions by customers. For companies and inventors the protection of their innovative ideas from counterfeiting and copying can be an important factor of continued business success. New inventions and innovative technical solutions in the field of user interface design can be protected in different ways: as patents or design patents, or, alternatively, through copyright protection. This paper presents the different approaches to IP protection in the area of user interface design as well as important specific properties that distinguish the user interface field from other technical areas. It is intended as an introduction to intellectual property protection for inventors and user interface designers.

1 Introduction

Patents and other legal IP rights have been introduced to give the owner of a patent a time-limited monopoly to use his or her invention. If you own a patent that protects an innovative idea you can prevent others from using this idea in their products. It allows you to either sell your products without competition or to license your IP rights to others and participate in their market success through license fees. If a competitor makes use of a protected innovation (patent infringement), the owner of the IP right can ask the courts to either enjoin the other party from using the innovation or force the other party to take a royalty-bearing license. The IP owner is additionally entitled to receive damages which may come from the profit the other patent infringer has gained or from lost profit from lost own sales.

If an inventor has an idea that can be protected by a patent the invention must be filed at a patent office. Patent protection can be sought on a national level, as well on an international level, through European patent applications or through global PCT (Patent Cooperation Treaty) filings that then are filed with national patent offices. At the end of a lengthy examination and prosecution process the patent owner will receive a patent describing his invention in enough detail to make the invention understandable to a person experienced in the technical field.

Patents are always national rights. This means that an invention is protected through a patent only in those countries in which the patent has been granted and the periodic post-grant fees for the patent are paid. There is currently no option for a worldwide or international protection through patents. Applications on European or PCT level are merely preliminary steps to national filings that make the prosecution process streamlined and more cost effective. It is therefore very important for an inventor to decide on the appropriate country coverage which he wants to get for the protection of his invention. Since the prosecution process is quite costly and fees for patents are due in most countries on a yearly basis after grant one has to balance the patent-related cost with the benefit of a wider protection.

2 The value of intellectual property rights

As already mentioned the main purpose of patent protection is either to obtain a monopoly on a specific product or solution or to create licensing income by allowing others to make use of the protected invention.

The value of a patent is largely defined by three important criteria:

- (i) Attractiveness to market competitors
- (ii) The ease or difficulty of circumventing the protected invention,
- (iii) Possibility to prove infringement by foreign products.

2.1. MARKET INTEREST

The most important factor for the relevance and value of a patent is the attractiveness to market competitors and customers. A patented invention that is neither required nor needed in the market has no value to the patent owner. Licensing income can only be created if others want to or have to use the protected invention in their products, and if customers want to buy products protected by the patent.

2.2. EASE OF CIRUMVENTION

If a patent protects a specific solution for a problem for which many alternative solutions exist at a competitive cost, the value of such a patent is

very limited since competitors can use one of the alternatives to achieve the same purpose as with the invention protected by the patent. It is then possible to protect one's specific solution but the licensing potential of a patent becomes very limited and enjoining others from using the inventive solution is not valuable.

2.3. PROOF OF INFRINGEMENT

A third relevant factor for the valuation of a patent is the question how difficult it is to show that a competitor is using the protected invention. If an invention can be used in a way which makes it very costly or even impossible to show that someone else infringes on a patent, the value of such a patent becomes very limited for its owner. For a patent to be valuable it must be possible to prove infringement by others.

If proof of infringement is difficult or very costly it might make more sense to keep the invention secret. In such a case the requirement of describing the invention in sufficient detail makes it easy for others to use the protected idea while not publishing a patent application may better protect the invention. Before applying for patent protection these three factors should be evaluated in enough detail to allow for a trustworthy estimate of the possible value of a patent when it will be finally granted.

2.4. VALIDITY OF A PATENT

One goal of the examination during the granting procedure of a patent is to establish the validity of a patent. A patent should be granted by the patent offices only if the claimed invention is truly innovative, i.e. has not been in use or described by others before the date of filing, and if the invention is not obvious to experts working in the field in which the invention was made. Since these criteria are applied differently by different patent offices and different patent examiners (and because of limited information available to the each patent examiner) the question of validity of a patent remains a point of dispute even after a patent has been finally granted.

3. Essentiality of Intellectual Property

One important factor to the valuation of patents is the distinction between essential and non-essential patents. An essential patent is a patent which must be used when manufacturing a certain product, i.e. it is not possible to find a viable alternate solution to a specific technical problem. A patent usually is essential if it protects a solution which has been used in an industry standard.

Important areas in which many essential patents exist are e.g. the communication standards like GSM, GPRS, UMTS, or CDMA as defined by

ETSI and other standard-setting bodies. For a communication device to be used in a GSM network it has to adhere to the communication procedures and properties defined in the GSM standard. Patents covering these or used in these communication procedures are essential to the GSM standard and must be used in all GSM-compliant communication devices.

Owners of essential patents have some restrictions on using their patents. Usually, the standard-setting bodies require owners of essential patents to offer licenses to their patents under fair, reasonable, and non-discriminatory conditions (FRAND). This means that the owner of an essential patent may not use his IP to discriminate between potential licensees and, in particular, will usually not be able to get an injunction based on infringement of an essential patent. On the other hand, there is no need to prove infringement of an essential patent because, by definition, essential patents must be infringed to fully practice the standard. All that remains to be shown is the validity of the patent in order to require all manufacturers to take a license under essential patents.

4. Using a Patent after Grant

After a patent has been granted by a patent office and the official period for opposing the patent is expired the owner of the patent can make use of his right either to prevent others from using the claimed invention or to request others to take a royalty-bearing license to use the solution. Another possibility for use of the patents, normally available only to larger competitors, is the use of patents for negotiating cross-license agreements with other companies. These cross-license agreements allow both companies to make use of the other's protected IP and can be either royalty-bearing or without any related flow of money.

The process of getting license agreements in place can be extremely tedious and cost intensive. Normally it comprises a thorough analysis of the validity of the patent(s) in question by the potential licensee trying to show that the patent(s) should not have been granted due to existing prior art and are therefore not valid. The owner of the patent must show sufficient proof of infringement. This in itself can be a challenging task. Trying to get an injunction against a competing company usually requires legal action at a court in the country in which the injunction is sought. This again is a very complex and cost-intensive activity for which the legal expertise of patent lawyers is urgently needed. The procedures for obtaining an injunction in different legislations may be quite distinct and a description of these processes is beyond the scope of this tutorial.

5. Other forms of Intellectual Property Protection

There are number of other option to protect intellectual property besides patents and trade or company secrets as described above.

Copyright protection of software is achieved by marking the software of the solution to be protected with an appropriate copyright notice. It gives the owner of the copyright the option to prevent others from using a specific implementation. Copyright may also be used to protect other creative works like music, art, or written text. Design patents (Geschmacksmuster) protect the specific appearance of a product, e.g., the industrial design of a product or the screen layout of user interface. This type of IP protects from direct copying (counterfeiting) and can be quite efficient to prevent others from creating identical copies of existing products. Unfortunately design patents have only limited value outside of protection against plain product piracy and should be used with care if one wants to protect more than the plain “look”, e.g., the appearance of a user interface.

6. IP protection in the Area of User Interfaces

Innovative ideas, technologies and design on the user interface level can be protected as any other technical invention. The value of patents in the field of user interface is, however, different from patents in other technology areas.

As mentioned above patents can be evaluated by looking at three distinct properties: (i) ease of proof of infringement, (ii) ease of circumvention, and (iii) market interest in the claimed invention. While it seems fairly straightforward to show that someone else has used an invention in a user interface, it is also true that very often it is quite simple to create a usable interface without infringing a particular patent. Only in specific cases in which a product has a remarkable market success based on a specific user interface solution competitors may be forced to use similar or identical solutions. As market interest in a claimed invention is the most important of the three success factors, the market value of a UI patent may be quite limited due to the large number of potential alternative solutions. Unfortunately it is quite difficult to estimate market success in the absence of existing products or implementations. Therefore trying to get a trustworthy estimate of the value of user interface invention can be quite difficult or even impossible.

Protecting the specific appearance of a user interface can also be done through the use of design patents (Geschmacksmuster). This type of IP protects from direct copying (counterfeiting) and can be quite efficient to prevent others to create identical copies of existing products. Unfortunately design patents have only limited value outside of protection against plain product piracy and should be used with care if one wants to protect more than

the plain “look”, the appearance of the user interface. On the other hand, the “feel” of a user interface can quite often be protected much better through copyright protection of the underlying software.

7. Concluding Remarks

Legally protected inventions can be the source of considerable licensing revenues to the inventors of novel technical solutions. Achieving the appropriate level of protection for these inventions is, however, a challenging task, and can be quite expensive. The subsequent process to make use of a granted IP can be as difficult and costly as the prosecution of a patent application. The successful conclusion of licensing contracts requires considerable know-how, experience, patience, and financial resources. Many things can go wrong during the negotiation process for these licensing contracts. The huge budgets spent by major manufacturers on IP litigation are proof of the complexity of these issues.

Getting the help of so-called licensing experts or licensing companies may not have a positive effect on a licensing process. While the inventor wants his invention to be used successfully while getting a fair return on his investment in his invention, the motivation for these licensing companies remains purely financial. The more license fees they can get, the higher their profit will be. Requesting too high royalties from potential users may, however, have the adverse effects that the companies requested to take a license will prefer to fight the legal validity of a patent, and try to design around a specific solution, thereby making the IP in question obsolete.

Many inventors and small companies will not have the support and financial backing to successfully run their own licensing program. Choosing the right advisors for support will be another challenging task for them. For these inventors who want to see their inventions used in products it is a viable alternative to discuss licensing setups with large manufacturing companies who have the necessary capacity, both in terms of expert resources and financial backing, to make use of an invention in their own products, guarantee the appropriate legal protection for inventions, and to guarantee a fair return on the inventor’s investment in his innovative ideas.

Note: This paper is not written by a patent lawyer. It is only intended to give an overview on the options available to inventors and companies. If you have legal questions about IP protection you should contact an expert patent lawyer.

I have deliberately not listed any references to text books on IP protection or licensing. There are many books for non-lawyers published on these topics. The legal background in this field is, however, very dynamic and it is advisable to get expert support for any action related to IP protection.