

I. INTRODUCTION	3
II. CURRENT PROTECTION	
A. Software Patent in the United States	4
B. Protecting Software in the European Scenario	5
i) History of the Software Protection Matter (Legal Perspective)	7
ii) How Can You Protect Your Software?	8
iii) Copyright Law vs. Patent Law; does it really matter?	10
iv) Differences Between Software Protection and Computer- Implemented Inventions.	12
v) Practical Issues When Trading With Europe.	14
III. ANALYSIS	
A. The Future of Patentability of Computer Programs in Europe:	15
i) Current Debate Regarding Patentability of Software in Europe.	15
ii) Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society	19
iii) Recent Works of the European Parliament regarding this issue. ..	19
iv) Economic Impact of Patentability of Computer Programs in the Current European Framework.	21
v) The situation in several countries:	
a. Spain	23
b. Germany	24
c. United Kingdom.....	24

III. CONCLUSION

A. Changing the Present Scenario of Software Protection in Europe 25

BIBLIOGRAPHY 27

I. INTRODUCTION

The history of the patentability of computer programs is the story of a battle between two kinds of systems: those who grant patent protection to computer software and those who don't. Ever since the approval of the Paris Convention for the Protection of Industrial Property of 1883, countries have tried to harmonize their national laws in order to compromise in a continually globalized world. Although many international conventions and treaties have been enacted since then, there is still no consensus of patent software law world-wide.

To try to find a remedy to this, the World Trade Organization (WTO) passed in 1995 the *Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS)* in order to reconcile the world's patent laws. While this treaty is not binding for the contracting countries, it grants protection for any kind of invention in all field of technology capable of industrial application.¹ Despite this recognition to technology, the Convention classifies computer programs in the category of "literary works"², cross-referencing it with the *Berne Convention*. In regard to this matter, we must mention the *Patent Cooperation Treaty* signed in Washington in 1970 which aimed at facilitating the application and protection of international patents.

The discussion between software protection under copyright or patent laws has also been traditionally influenced by the innovative tradition of the country. Since the Industrial Revolution, the United States and Japan have been ahead in the global race for innovation, while Europe has been more conservative in this sense.

Therefore, in this global scenario we see, on one side, countries like the United States, and partly Japan, which have finally granted patents regarding this issue, and on

¹ Article 27 Trade-Related Aspects of Intellectual Property Rights.

² Article 10 Trade-Related Aspects of Intellectual Property Rights.

the other side, members of the European Union that implementing Directives, haven't recognized patentability for this kind of inventions.

II. CURRENT PROTECTION

A. Software Patent in the United States

The basic regulation of the patent system in the U.S. is in its Constitution that provides that "*The Congress shall have power... to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries*".³

The history of software protection involves copyright, trade secret and patents; while in its very beginning, computer applications were protected under copyright and trade secret laws, the U.S. was gradually allowing software programmers to protect their work under the scope of Patent Laws. This conflict began in the 1970s when several federal courts granted patent protection to software but only as a part of a hardware, when the device is the real novelty of that claim; remarkable lawsuits in this decade include *Gottschalk v. Benson*⁴ and *Parker v. Flook*⁵.

In 1981 the U.S. Supreme Court, in *Diamond v. Diehr*, granted patent protection to a process for curing synthetic rubber which included in several of its steps the use of a mathematical formula and a programmed digital computer. Later on, a series of court and administrative decisions relaxed the subject matter exception that restricted the

³ U.S. Constitution, Article I, §8

⁴ *Gottschalk v. Benson*, 409 U.S. 63 (1972)

⁵ *Parker v. Flook*, 43 U.S. 584 (1978)

patenting of software-related inventions⁶; examples are the publication of new examination guidelines by the PTO in 1996 and decisions of other courts that lowered standards for obtaining patents⁷.

Therefore the U.S. Supreme Court has finally accepted the patentability of computer software inventions even when innovations in this field are quite similar to other abstract devices such as mathematical formulas and algorithms, laws of nature, physical phenomena and business methods⁸. Due to this approval, nowadays software-related inventions make up for 15 percent of all patents. Contrary to common belief, only 5 percent of these patents are granted to software publishers. The other 85 percent belong to large firms, especially to manufacturing companies that seem to accumulate large software patent portfolios for strategic reasons (computer, electrical equipment and instruments)⁹.

B. Protecting Software in the European Scenario:

In the European scenario, software protection is completely different. We have to start talking about how patents are granted in Europe to understand how the legislation of the different countries work¹⁰.

⁶ Hunt, Robert M. 2001. "You Can Patent That? Are Patents on Computer Programs and Business Methods Good for the New Economy?" Federal Reserve Bank of Philadelphia *Business Review*, 1st Quarter, pp. 5-15.

⁷ Bessen, James and Hunt, Robert M. 2003. "An Empirical Look at Software Patents" <<http://www.researchoninnovation.org/swpat.pdf>> (website revised December 10, 2004)

⁸ Hulse, Robert A. 2000. "Patentability of Computer Software after State Street Bank & Trust Co. v. Signature Financial Group Inc.: Evisceration of the Subject Matter Requirement" (33 U.C. DAVIS L. REV. 491)

⁹ Bessen, James and Hunt, Robert M. 2003. "An Empirical Look at Software Patents" <<http://www.researchoninnovation.org/swpat.pdf>> (website revised December 10, 2004)

¹⁰ Nowadays, and after the incorporation of Lithuania on December 3, 2004, these states are members of the European Patent Organization: Austria, Belgium, Bulgaria, Switzerland, Cyprus, Czech Republic, Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Hellenic Republic, Hungary, Ireland, Iceland, Italy, Liechtenstein, Lithuania, Luxemburg, Monaco, Netherlands, Poland, Portugal, Romania, Sweden, Slovenia, Slovakia, and Turkey.

The European Patent Office (EPO) was established in 1973 by the “European Patent Convention” as a international institution that grants patent protection to inventors in all its member states’ territory with the purpose of harmonizing patent laws throughout these countries. It has legal personality, its headquarters are in Munich although it has a branch in The Hague. Last but not least, the EPC specifically excludes computer programs from the meaning of invention¹¹.

There is a reason why in Europe, or in countries members of the EPO, legislators preferred not to grant patent protection to this field of technology: Europe doesn’t have a large tradition on innovation and used to be very conservative in passing laws regarding technology. In addition, consumer organizations are quite powerful all across Europe and since this debate has started, these groups have been lobbying very actively over the Internet and have pressured parliamentary groups against enacting regulations that permit software developers to protect their innovations under Patent Law¹². Meanwhile, countries like Poland have recently said that they will not support the proposed Directive of Patentability of Computer-Implemented Inventions because it has too much ambiguity and contradictions¹³, therefore bringing to a halt any modification in this regard.

¹¹ Article 52.2.c European Patent Convention.

¹² The “Foundation for a Free Information Infrastructure” (FFII) is leading this struggle to bar the patentability of computer-related inventions, while “the European Information and Communication Technology Association” (EICTA) is working very hard to make the European Parliament finally passes a Directive granting this kind of Patent protection.

The FFII bases its arguments in that patent protection only benefits big companies with big patent portfolios; in addition, Rufus Pollock, U.K. spokesman for the foundation, said that “as all informed observers know, promoting innovation is a matter of striking a correct balance between protection and monopoly. Innovation and ideas must be 'adequately rewarded,' and this is precisely what software patents do not do.”

Meanwhile the EICTA, in words of his spokesman holds that "Europe is a prominent player in software-enabled inventions in many areas, such as health care, telecommunications, mobile phones, cars, aviation and consumer electronics. Europe needs patents to maintain and strengthen its leadership”.

http://news.com.com/2102-1014_3-5432364.html

¹³ http://news.com.com/2102-1012_3-5456995.html

i) History of the Software Protection Matter (Legal Perspective)

As abovementioned, in Europe, the history of software protection has been the story of a struggle between big companies that request the patentability of innovations regarding computer software, and small companies and consumer organizations that oppose to such protection and advocate for copyright laws to secure their inventions. Therefore, although article 52 of EPC bars the patentability of computer programs, in 1986, Vicom Systems, a California-based incorporation, was granted a Patent on its invention for a “method and apparatus for improved digital image processing”¹⁴. This application was first rejected as non- patentable by the Examining Division of the EPO; but the Technical Board of Appeal reversed this decision on the basis that “*even if the idea underlying an invention may be considered to reside in a mathematical method, a claim directed to a technical process in which the method is used does not seek protection for the mathematical method as such*”¹⁵, thus considering the idea not as an abstract idea but as a “real world activity”.

Other important cases of the European Board of Appeals that combine the European scenario with the American are *Siemens A.G. v. Koch & Sterzel GmbH & Co*¹⁶, and in *In re Sohei*¹⁷.

Despite these cases, and as Michael Guntersdorfer stresses out in his article *Software Patent Law: United States and Europe Compares*¹⁸, in these early years, most of the European software patents were not issued to European companies but to American and Japanese corporations. The former seemed accustomed to the fact that

¹⁴ European Patent Application No. 0.005.954 (filed May 22, 1979).

¹⁵ Vicom, 1987 O.J.E.P.O. at 14.

¹⁶ Where the Court held that “if the invention . . . uses technical means, its patentability is not ruled out.” *Siemens A.G. et al. v. Koch & Sterzel GmbH & Co.*, 1988 O.J.E.P.O. 19, 24 (Tech. Bd. App. 1987)

¹⁷ Where the Court held that a patent shouldn’t be rejected just because some features are within the scope of article 52.2 EPC *In re Sohei*, 1995 O.J.E.P.O. 525, 538-39 (Tech. Bd. App. 1994)

¹⁸ Article available at <http://www.law.duke.edu/journals/dltr/articles/PDF/2003DLTR0006.pdf>

computer programs were literally excluded in article 52.2, whereas the latter, whose statutes are broader, are more accustomed to litigate to obtain positive results.

Since the Board of Appeals issues patent protection to computer programs that solve “technical problems”, many software-based cases have been asked to this Court with different results. However the term “technical problem” hasn’t been developed enough by the Board of Appeals whereas in *Soler*¹⁹, the claim of a computer system for plural types of independent management including financial and inventory management was granted. Later in *IBM*²⁰ the Court, rejecting the claims of the appellant, held that a program to correct homophone errors was fairly mental and shouldn’t be protected by Patent Laws. More recently, in *Hitachi Ltd.*²¹, the Court rejected the appellant’s claims of patenting an “Automatic Auction Method” on the grounds that “Method steps consisting of modifications to a business scheme and aimed at circumventing a technical problem rather than solving it by technical means cannot contribute to the technical character of the subject-matter claimed”²².

ii) How Can You Protect Your Software?

Nowadays software-related inventions can be protected in Europe under Copyright or Trade Secret Laws, depending on the level of protection a developer wants for her innovation.

This issue is regulated by the “Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs” whose article 1 makes reference to the Berne Convention when it says that “*Member States shall protect computer programs,*

¹⁹ T 769/92 [1995] OJ EPO 525.

²⁰ T 65/86 [1990] EPOR 181

²¹ T 0258/03 - 3.5.1

²² <http://legal.european-patent-office.org/dg3/biblio/t030258ex1.htm>

by copyright, as literary works within the meaning of the Berne Convention". Indeed, in Europe computer software is protected under copyright laws

However what does it really mean? Copyright Laws don't protect ideas, but the tangible form they are fixed in although the aforesaid Directive protects both the source code and the object code for computer programs²³.

Some of the rights expressly provided in this Directive are that the author (in the computer jargon, developer) has the permanent or temporary reproduction of a computer program by any means whether totally or partially; the translation, adaptation, arrangement or any other alteration of the program; the exclusive distribution and first sale of the innovation in the Community²⁴. Likewise, this Directive sets up some restrictions to the right holder; the acquirer of a license doesn't need to be authorized by the developer to make changes in the computer program code to fix errors or other lawful purposes²⁵.

The Directive also allows the decompilation of software without the permission of the right holder when the licensee of a computer program needs to reproduce the code and translate its form within the meaning of article 4 (a) and (b) in order to enable the interoperability of an independent created software with other applications. This can only be done if this task is performed by the licensee and with the limitation that this

²³ Matsuura, Jeffrey H., 1957- Title Managing intellectual assets in the digital age / Jeffrey H. Matsuura. Imprint Boston, MA : Artech House, c2003: "Source code consists of program statements written in a form that can be read by humans, using a computer programming language such as C. Object code is computer program code written using ones and zeros in a form readable by the computer. People write source code, which is then compiled and assembled into object code, which functions as the executable code."

²⁴ Article 4 of Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs.

²⁵ Article 5 of Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs.

change cannot prejudice the right holder's interest on the commercial exploitation of such software.²⁶

The length of the protection is, under Copyright Laws, the life of the developer plus 70 years after his death or the death of the last inventor. However, if the right holder is an artificial person, the term of the protection is 95 years from the time that the computer program is first lawfully made available to the public.²⁷

iii) Copyright Law vs. Patent Law; does it really matter?

Yes, it does. There are many differences between both legal systems concerning the protection of computer programs; copyright and patent laws have pros and cons and the adoption of one of these solutions has depended on the innovation tradition of each country. While countries like the U.S., and partly Japan have granted patent protection to software developers, other countries like European Community members, with less tradition in this regard, have preferred to protect this innovation through Copyright Laws.

These differences encompass everything from the formalities a developer has to follow to protect her software to the term of such computer program. Copyrights Laws protect an authors' work since it is fixed in a tangible medium, with no further requirements, whereas Patent Laws protect only those innovation filed at the PTO or EPO and has to respect certain conditions like prior art, date of issuance, etc. In this regard, patent laws usually provide the developer broader protection than copyrights law because they permit to block others to develop, not only a product with similar form, but also those with similar functions. In return, copyright laws only protect the form of

²⁶ Article 6 of Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs.

²⁷ Article 8 of Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs.

the invention, but never the functions it has; it means that a in copyrighted work only the source code or the algorithms will be protected, by contrast, a patentable software will protect in addition, the function it performs.

But protecting software under patent laws has also many disadvantages. Although a patent provides a broader protection to the right holder, the term of such protection is shorter²⁸. Additionally, obtaining patent protection takes much more time than copyright and generally is more expensive; not every work can be patentable, but almost every creation can be copyrightable. Finally, once a patent is granted, the details of such invention are disclosed to the public, which can give rise to the infringement of others, while works protected under Copyright Laws are never disclosed in this way.²⁹

Despite these advantages, the reality is that American computer program developers prefer to protect their creation under Patent Laws because the scope of such protection is broader which allows them the monopolized use of the work in better terms; while European software programmers still prefer Copyright Laws because the invest of a patent protection is higher and small and medium-sized companies cannot afford the great investment a patent means.

But both rights can coexist in a complementary manner because a same computer program can be protected by copyright and patent laws at the same time; therefore, for example. a computer program can infringe copyright laws in the code and patent laws in the principles and ideas of other computer application.

²⁸ While the protection for Copyright Works last 70 years after the death of the creator, protection for Patented innovations last just 20 years since they were filed.

²⁹ Matsuura, Jeffrey H., 1957- *Managing intellectual assets in the digital age*. Imprint Boston, MA : Artech House, c2003 p. 15.

iv) Differences Between Software Protection and Computer-Implemented Inventions.

Before start analyzing the differences between both software-related innovations we have to study what are computer-implemented inventions and why are they considered dissimilar.

The Commission of the European Communities drafted a proposal of Directive on the patentability of computer-implemented innovations³⁰ in 2002; however it has yet to be approved and the works in this field haven't been resumed since the publication of this proposal of Directive. In this document, the Commission stressed the importance of harmonizing the European Law regarding computer software patents to the American situation, especially to make European companies more competitive.

Article 2 of the proposal of Directive defines computer-implemented invention as *“any invention the performance of which involves the use of a computer, computer network or other programmable apparatus and having one or more prima facie novel features which are realized wholly or partly by means of a computer program or computer programs”*.

Therefore, and under the scope of this definition, the invention must constitute a “novelty”; however when using the Latin expression “prima facie”, the definition wants to stress out that it is not necessary to establish concrete novelty to consider an innovation as patentable, being enough for the invention to be nonobvious for someone skilled in the art.³¹

Within this type of technological advance, as stated in article 5, are a *“programmed computer, a programmed computer network or other programmed*

³⁰ Proposal for a Directive of the European Parliament and of the Council on the patentability of computer-implemented inventions 2002/0047 (COD)

³¹ Such definition is in compliance with article 27(1) of the TRIPS Agreement that concede the patentability of inventions in all field of technology, and with EPO Boards of Appeal that grant patents in computer-implemented inventions only when they have a technical character

apparatus, or as a process carried out by such a computer, computer network or apparatus through the execution of software.” This means that, effectively, a computer program by itself would never be patented under this proposal of the Convention because it always has to be included as a part of a physical or hardware device.

But in this proposal of Directive we can find an important contradiction when excluding from its scope “computer programs as such” which can only mean that a programmer wouldn’t be able to protect the source code of her computer program, something illogical mainly when comparing patents with copyright laws, the latest protects this code and is cheaper.³²

As a matter of fact, this variant of software patent protection has been largely granted by the EPO in technologies like digital data processing, data recognition, representation and storage and other areas of business such as automotive and mechanical engineering. By 2004, the EPO had granted over 30.000 computer-implemented patents³³, and this number increases at a rate of 3.000 per year³⁴; although this number could indicate that the EPO is flexible granting this innovation, many of them are rejected for falling in the scope of 52(2) EPC.

In fact, a controversial decision of the EPO held in 1998 that “*a computer program product is not excluded from patentability under Article 52(2) and (3) EPC if, when it is run on a computer, it produces a further technical effect which goes beyond the normal physical interactions between program (software) and (hardware)*”.³⁵

In conclusion, computer-implemented patent is nowadays the only legal option a software programmer has to protect her innovation under Patent Laws in the European

³² Software Patents and the Current EU Legislation Rufus Pollock, Liam Kavanagh and Jonas Maebe http://www.ffii.org.uk/swpat/software_patents_summary.pdf

³³ <http://www.eu-citizen.com/en/informatique.htm>

³⁴ <http://swpat.ffii.org/log/intro/index.en.html>

³⁵ EPO Decision: T 1173/97 COMPUTER PROGRAM PRODUCT/IBM (<<http://legal.european-patent-office.org/dg3/pdf/t971173ex1.pdf>>)

Community and although its scope seems to be narrow, many categories of computer software technologies can be currently protected under this specialty of patents.

v) Practical Issues When Trading With Europe.

An American corporation that will introduce its product in Europe will encounter a scenario completely different than what it is accustomed to. As mentioned above, the first thing this company has to know is she won't be able to protect her software innovations under Patent Law, and only if her invention is within the scope of "computer-implemented" innovation she will be able to get a patent protection over her product. Therefore, this multinational company will have two options in order to protect her innovation: Copyright or Trade Secret.

European Copyright legislation is nowadays more developed than trade secret law; the Directive 91/250/EEC, later adapted and applied by each State Member, is the responsible of the legal protection of computer programs which, fundamentally, refers to the Berne Convention for the Protection of Literary and Artistic Works of 1886, so the rules applied in this regard would be the international copyright laws, with no further particularities.

There is not still a common legislation on trade secret in the European Union although is one of the commitments of the European Parliaments for the coming years.³⁶

³⁶ <http://europa.eu.int/comm/research/era/3pct/pdf/unice-wkshp4.pdf>

III. ANALYSIS

A. The Future of Patentability of Computer Programs in Europe:

The future of the patentability of computer programs in Europe is now, more than ever, uncertain. The debate is completely open and, while in the late 90s this discussion was located in academics and parliamentarian provinces, since the Internet boom, every Internet user has become a party in this controversy.

In this section we will analyze the current situation of this debate, not only from a legal but also from a social point of view; while Companies are requesting the enactment of legislation that permits the patentability of computer software in Europe and Internet users Organizations demand precisely the opposite, the European Parliament seems to be in the middle of the battlefield, willing to pass a law in this regard but with the sensation of the opposition of a majority sector of the population and the Government of some European countries.

i) Current Debate Regarding Patentability of Software in Europe.

As mentioned, the debate of the patentability of computer programs is currently lead by big corporations in one hand, and consumers organizations in the other. In addition, some governments like Poland, have stressed their total opposition to a possible Directive allowing this innovations.

Corporations, especially American companies, have been demanding the enactment of Directives that finally equal the situation in Europe with the U.S. and Japan although they have encounter with a scenario with powerful users organizations and with less tradition in innovation.

In November 1997, the European Commission published the results of a study known as the “Green Paper” which studied the impact of a potential allowance of patentability of computer programs would have in the European Community. Later on, the EPO hosted a round table discussion about this issue and finally, they concluded that

“the current legal situation regarding patent protection for computer implemented inventions is unsatisfactory by virtue of lacking clarity and legal certainty.... This situation has adversely affected investment and innovation in the software sector and has had a negative impact on the functioning of the Internal Market.”³⁷

In 2000, a Diplomatic Conference to Revise the European Patent Convention began in Munich, at EPO’s headquarters, to consider the recommendations demanded from different flanks. In this conference, the main point to be regarded was the allowance of patent protection to any kind of technical invention, including therefore computer programs, in reliance with article 27(1) of the TRIPS Agreement. Unexpectedly, some of the major European countries, Italy, France and Germany, voted against the amendment of article 52 EPC, opposing the deletion of computer software as exception of patentability subject matters.³⁸

After these approaches, in late 2000, the European Commission decided to consult via Internet about the patentability of computer programs; the result of this poll was that the great majority of people who responded declared to be against the patentability of software (although most of the e-mails belonged to pro-open source

³⁷ Document available at <http://www.ati.es/ATInet/tablonos/SoBre/0019.html>

³⁸ An Open-and-Shut Case: the Diplomatic Conference to Revise the Articles of the European Patent; by Erwin J. Basinski, Esq.

software members) and even many SME (small and medium business enterprise) didn't comment in favor of such amendment.

Probably, the group that is lobbying the EU Parliament the most is The Foundation for a Free Information Infrastructure (FFII), European organization that in the last year planned demonstration in Portugal, Italy, Germany, The Netherlands, Switzerland, Spain and other European countries with the aim of impeding the enactment of the Directive for the patentability of computer-implemented innovations. This foundation, on a paper published on October 1, 2004³⁹, stated their reasons for their opposition to the patentability of computer programs, which are:

· *“Patent Reward is Vastly Disproportionate to Innovator Investment”*

They hold that the investment the inventor makes and the reward he obtains is disproportionate and cannot be compared with other fields of innovation.

· *“Loss of Competition Resulting from Patents”*

They assert that if a patent that resolved a problem is granted, this monopoly would reduce the advance of the science because it could block other companies to research in a program that perform the same service.

· *“Large Legal and Red Tape Costs”*

They opposes to the software patent because it increase the cost of litigation that much that small companies couldn't afford the defense of their software in case of infringement.

· *“Interdependent Nature of Software Means that Patents Obstruct Follow-on Innovators Far More than in Other Fields”*

³⁹ Software Patents and the Current EU Legislation Rufus Pollock, Liam Kavanagh and Jonas Maebe http://www.ffii.org.uk/swpat/software_patents_summary.pdf

The FFII thinks that software is a field of technology where companies rely on each other and where a single product may depend on thousands of other, and if a legislation allowing the patentability of such innovation is passed, the price of the licenses of such patents could increase with a strong repercussion to the end user.

· *“Effective Methods Already Exist to Encourage and Reward Innovation”*

Finally, the stress that copyright laws are a better option is because they protect the source code of the computer program rather than its ideas, which benefit the society because don't restrict other programmers to research in this new idea.

Likewise, Linus Torvalds (founder of Linux) , Michael Widenius (co-founder of MySQL) and Rasmus Lerdorf (developer of the PHP language), sent last month an appeal to the EU Council opposing the enactment of the abovementioned Directive because they consider it “deceptive, dangerous and democratically illegitimate”⁴⁰.

In the other side of the discussion, although less actively, are big companies like IBM, Microsoft or Sun Microsystems and the European Parliament (headed by the Commission in charged of drafting the Directive) that have tried to pass legislation for the patentability of these inventions nonetheless it has always encountered the opposition of some major European members.

However this situation seems to be paradoxical. In one hand there are several groups against the patentability of any kind of software innovation, but in the other, the EPO has been granted patents to computer-implemented innovations since 1986, what is exactly the gist of the legislation the European Parliament has been trying to pass since 2002. Moreover, both parties, those who are against the patentability of software

⁴⁰ “Appeal to the EU Council” by Linus Torvalds, Michael Widenius and Rasmus Lerdorf

inventions and the EU Parliament, agree to bar the patentability of pure computer programs that are not embed in a hardware device.

ii) Directive 2001/29/EC of the European Parliament and of the Council of 22 May 2001 on the harmonization of certain aspects of copyright and related rights in the information society

In this scenario, the situation was even more complex before 2001, when a Directive to harmonize some intellectual property aspects was passed in a time when many countries were drafting new statutes of amending those already in force to adapt to the new information society problematic. The goal of this Directive, as stated in its preamble, was to foster the development of European Union members, not only in an internal market, but also overseas, harmonizing the legislation across Europe regarding Copyright and other Intellectual Property Rights.

But this Directive doesn't introduce any change in the legal protection of computer programs, mentioning explicitly in the Article 1(2) of its text that the Directive shall leave intact the existing legislation in such matter as stated as well in its point 50 of its preamble.

iii) Recent Works of the European Parliament regarding this issue.

The start point of this section is 2002, with the proposal of Directive of the Council of the patentability of computer-implemented inventions and finish in the present days.

Therefore, the E.U. Council proposed a Directive to harmonize the different legislation already in force in each state member, even when innovations based on computer-implemented software were being grated frequently by the EPO. Then, the

Council adopted the report drafted by Arlene McCarthy that stressed the importance of allowing the patentability of only computerized inventions and but only of these innovations, pronouncing against the protection of *every* kind of software.

On September 24, 2003, the European Parliament voted in favor on the resolution drafted by McCarthy on the patentability of computer-implemented inventions, however the reality is that this resolution didn't introduce anything new to the European patent situation since it just clarified what was the normal practice of the EPO. In this first reading, the Parliament made some important amendments to the proposal of the Commission like that an algorithm could only be patentable if it has a technical problem; or it introduced some small changes in the definition of "invention", "technical contribution" or "computer-implemented invention".

On May 17, 2004, the European Council reached an agreement with some countries abstaining (Austria, Italia and Belgium) and Spain voting against the enactment of the Directive. After been approved by qualified majority, the document was sent to the European Parliament for a second reading round; once again, the document stresses the importance of passing a Directive to grant patents to computer-implemented innovations, but only those that have an industrial application.

But, even when it could appear that the approval of this Directive is becoming a reality, the latest news point to the contrary. On November 18, 2004, the Polish government withdrew its support for the Directive; they asserted that the text doesn't meet anymore its original objective of limiting patents on software and business methods in Europe because its scope could allow almost all kind of software innovation to get a patent. The decision of the Polish cabinet is important because without the

support of the 16 representatives Poland has in the European Parliament, the Directive loses its qualified majority.⁴¹

In December 9, 2004, Marc Verwilghen, Belgian minister of economics and energy, said that the Directive would not be voted on by the Council of the European Union until 2005 because that the previous qualified majority no longer exists and the document must be discussed again by the state members.⁴²

Under this scenario, it is difficult to predict what will happen in the future; while advocates of software patent protection hold that this system has been using in the U.S. with no catastrophic outcomes, its detractors stress out that copyright laws are enough to protect software and as a matter of fact, it has been applying with positive results.

iv) Economic Impact of Patentability of Computer Programs in the Current European Framework.

Probably, the major concern of the European Parliament in order to reject the patentability of such inventions is the impact it could have in the European economy, a financial system less innovative and aggressive than the American.

An study on the Economic Impact of Patentability of Computer Programs in Europe on behalf of the Intellectual Property Institute⁴³ asserts that the enactment of legislation granting software patent could provoke a disproportionably between the nature of the innovation and the incentive that the society gives to that inventor as well as the jeopardize that the inventor decides not to license her product to others, with a block in the innovation channel in that field of science.

⁴¹ http://www.theregister.co.uk/2004/11/18/poland_vote_against/

⁴² http://news.zdnet.com/2100-3513_22-5483129.html

⁴³ Study Contract ETD/99/B5-3000/E/106: The Economic Impact of Patentability of Computer Programs by Robert Hart, Peter Holmes and John Reid on behalf of Intellectual Property Institute http://europa.eu.int/comm/internal_market/en/indprop/comp/study.pdf

In addition, the same Study reflects that computer programs special nature, where the pace of innovation is very rapid and where the utility of its patents have short lives, granting patent protection could be too onerous to SMEs that would be force to protect their software under patent laws pressed by big corporation, with an increase in the cost of the legal protection, and with less reward compared with other industries.

“A single program incorporates many different algorithms, some invented by the programmer, some borrowed from general practice and some perhaps deliberate copied from a known originator. If algorithms are private property the costs of figuring out which of the ones you are using belong to whom and negotiating the necessary licences may be high. So the argument against making algorithms private property is similar to the argument against making words private property”
(Friedman,D.)⁴⁴

In fact, according to Dr. Harald Hagedorn, the average cost of software patents is 20.000 – 50.000 € compared with the 1.000 € of average of copyright⁴⁵ what makes impossible for small and medium enterprise to compete with big companies in a market very profitable, but at the same time, very competitive.

Therefore, the economic issues of the patentability of such technology seem to play an essential role in the current battle in Europe. The idea of the collapse of the European Economy is in legislator minds, and the American situation seems to be a bad

⁴⁴ Friedman, D. "Computer Law", New Palgrave Dictionary of Economics and the Law, ed. P Newman, Macmillan

⁴⁵ Dr. Harald Hagedorn: Patent Software and Services,
<http://www.oecd.org/dataoecd/48/49/12600939.pdf>

example for a economy more conservative and more reluctant to big changes in its principles.

v) The situation in several countries:

a. Spain

In Spain, and following the recommendation of the European Union and International Treaties, computer programs are protected under the Spanish Intellectual Property Law⁴⁶, which includes such technologies within the category of author's rights, with a reference to the international copyright laws

Article 96 defines computer programs as a *“sequence of instructions or indications with the aim to be utilized, directly or indirectly, by a computer system to perform a function or task or to get a determined outcome, regardless its expression or fixation medium”*⁴⁷.

Despite this definition, this law establishes that when a computer program is a part of a patented or utility model invention, this software should be protected, in addition, by the Industrial Property Laws.⁴⁸ Finally, the law explicitly leaves out of its scope the ideas or principles in which computer programs could be based on, even those that aim to construe interfaces⁴⁹.

⁴⁶ Real Decreto Legislativo 1/1996, de 12 de abril, por el que se aprueba el Texto Refundido de la Ley de Propiedad Intelectual.

⁴⁷ Artículo 96.4 TRLPI: *“A los efectos de la presente Ley se entenderá por programa de ordenador toda secuencia de instrucciones o indicaciones destinadas a ser utilizadas, directa o indirectamente, en un sistema informático para realizar una función o una tarea o para obtener un resultado determinado, cualquiera que fuere su forma de expresión y fijación.”*

⁴⁸ Artículo 96.4 TRLPI: *“Cuando los programas de ordenador formen parte de una patente o un modelo de utilidad gozarán, sin perjuicio de lo dispuesto en la presente Ley, de la protección que pudiera corresponderles por aplicación del régimen jurídico de la propiedad industrial”.*

⁴⁹ Artículo 96.4 TRLPI: *“No estarán protegidos mediante los derechos de autor con arreglo a la presente Ley las ideas y principios en los que se basan cualquiera de los elementos de un programa de ordenador incluidos los que sirven de fundamento a sus interfaces.”*

b. Germany

The German *Patentgesetz* of 1980 excludes explicitly the patentability of computer programs in its article 1⁵⁰; however, some recent decisions of the *Bundesgerichtshof* (The Federal Supreme Court in civil matters in Germany) have opened the door of the software patent protection for many innovations, equalizing The German Patent Office (“*Deutsches Patent- und Markenamt*”) policy with the one of the European Patent Office. The particularity in such cases is that the *Bundesgerichtshof* doesn’t focus on the nature of the program but on the final product, that had to have a technical nature.⁵¹

Finally, in *Sprachanalyseeinrichtung*⁵², the Federal Supreme Court granted the protection under patent laws to software inventions that combined with hardware, have technical results.

c. United Kingdom.

Patents are regulated by the Patent Act of 1977 in the United Kingdom, which is in the same line that Spanish and German legislation. Its article 1(2) leaves out of the scope of the Act “programs for a computer”⁵³.

The position of the UK in this point is closer to the U.S. because its Government has declared openly that they approve the patentability of computer-implemented

⁵⁰ Article 1 *Patentgesetz*: “*Patents shall be granted for inventions that are new, involve an inventive step and are susceptible of industrial application.*”

(2) *The following in particular shall not be regarded as inventions within the meaning of subsection (1):*

1. *discoveries, scientific theories and mathematical methods;*

2. *aesthetic creations;*

3. *schemes, rules and methods for performing mental acts, playing games or doing business and programs for computers;”*

⁵¹ Bechtold, Stefan, "Software Patents in Germany - Current Developments" (July 2000)

⁵² <http://swpat.ffii.org/papiere/bgh-sprach00/index.de.html>

⁵³ Patent Act 1977, Article 1(2) “*It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –*
(c) *a scheme, rule or method for performing a mental act, playing a game or doing business, or a program for a computer;”*

inventions, adding that patents are the best solution to protect an innovation. The Government supports the Directive not only because she thinks it will help to clarify the current rules in the European Union, but also because will provide UK's SMEs a more competitive scenario with laws that protect their innovation better.

Additionally, the UK Patent Office stresses that, although computer programs patents have been barred, the reality is that computer-implemented inventions had get patent protection for the last 30 years, which makes it necessary to harmonize the legislation across Europe. This position made that many anti-patent groups complained against the UK Government, demanding a neutral position in the conflict, although this request hasn't been accomplished.

III. CONCLUSION

A. Changing the Present Scenario of Software Protection in Europe

In conclusion, at this point the question is, what will happen? Now more than ever, the future is uncertain, although whatever happens won't make much the real situation of software patent in Europe. In this issue, there is a big contradiction because there are two different interests confronted, in one side big companies and in the other SMEs and social organizations, struggling against and in favor of a law that would barely the situation in Europe.

The European Parliament is concern about passing a law that could harmonize the legislation already enacted by EPC members, a law that would barely change the patent protection system in Europe. The Parliament is not discussing the allowance of software patents in the same way that the United States; they are just willing to pass a Directive (that should be implemented by each member) that would make all the EPC

members' law equal. In fact, as many advocates of this law have held the situation before and after the enactment of such Directive would barely change.

Therefore, I believe that due to the power of European social groups, this Directive will be in a limbo for more years but it will finally be passed; meanwhile, the EPO will be granting more patents on computer-implemented inventions, depending on the nature of the invention and the skills of the patent drafter the patentability of such invention. Although I don't think the situation in Europe would be like the U.S., at least regarding software-related inventions, companies and inventors will get protection under patent laws depending on their innovation, and if they fall out of the scope of the EPC, they could always rely on Copyright Laws, with some advantages, but also with drawbacks.

BIBLIOGRAPHY

· BOOKS:

- Gutterman, Alan S.: **Innovation : the role of patents and antitrust and competition law regulation of patent licensing arrangements : a comparative analysis of the United States and the European Community / by Alan S. Gutterman.** Golden Gate University, 1996.

- Fonseca, Perry M.: **Comparative computer software patenting in the United States, Europe, and Japan : an analysis of Trilateral Commission Project 24.2 / Perry M. Fonseca.** Whittier Law School, 1998.

- Carvalho, Nuno Pires de.: **The TRIPS regime of patent rights / by Nuno Pires de Carvalho.** Kluwer Law International, 2002.

- Matsuura, Jeffrey H.: **Managing intellectual assets in the digital age / Jeffrey H. Matsuura.** Artech House, 2003.

- Stobbs, Gregory A.: **Software patents / Gregory A. Stobbs.** Aspen Law & Business, 2000.

- Woo, Jisuk.: **Copyright law and computer programs : the role of communication in legal structure / Jisuk Woo.** Garland Pub., 2000

- Drexl, Josef.: **What is protected in a computer program? : copyright protection in the United States and Europe / Josef Drexl.** 1994.

- Schultz, Jon S.: **International intellectual property protection for computer software : a research guide and annotated bibliography / by Jon S. Schultz & Steven Windsor.** CO: F.B. Rothman, 1994

- Tritton, Guy.: **Intellectual property in Europe / by Guy Tritton.** Sweet & Maxwell, 2002. Edition 2nd ed. 2002

- Broderick, Terry R.: **Regulation of information technology in the European Union / Terry R. Broderick.** Kluwer Law International, 2000.

- Javier Cremades, Miguel Ángel Fernández-Ordóñez y Rafael Illescas (Coordinadores): **Régimen Jurídico de Internet** Editorial La Ley. January 2002. ISBN: 84-9725-147-4

· **ARTICLES:**

- Michael Guntersdorfer: **Software Patent Law: United States and Europe Compared** (<<http://www.law.duke.edu/journals/dltr/articles/PDF/2003DLTR0006.pdf>>)

- Daniel Pérez González: **Por qué no a las Patentes de Software** (<http://kriptopolis.com/more.php?id=P25_0_1_0_C>)

- Erwin J. Basinski, Esq **An Open and Shut Case: The Diplomatic Conference to Revise the Articles of the European Patent Office Votes to Maintain the Status Quo Regarding Software Patents in Europe Pending Issuance of a new Software Patent Directive by the European Union.** (<http://www.ciaonet.org/olj/ijclp/ijclp_6/ijclp_6l.pdf>)

- Rufus Pollock, Liam Kavanagh and Jonas Maebe: **Software Patents and the Current EU Legislation** (<http://www.ffii.org.uk/swpat/software_patents_summary.pdf>)

- Thomas T. Gordon Arthur S. Cookfair: **Patent Fundamentals for Scientists and Engineers Second Edition.** Library of Congress Cataloguing-in-Publication Data

- **Protection of Software-Related Inventions in Europe and Japan Ladas & Parry LLP** (<<http://www.ladas.com/Patents/Computer/Computer.EPOJP.html>>)

- James Bessen and Robert M. Hunt: **An Empirical Look at Software Patents**
Federal Reserve Bank of Philadelphia Draft: March 2004
(<http://www.researchoninnovation.org/swpat.pdf>)

- **Guidelines for Examination in the European Patent Office**
Published by the European Patent Office ISBN 3-89605-060-5
(http://www.european-patent-office.org/legal/gui_lines/pdf_2003/index.html)

- Bronwyn H. Hall and Rosemarie Ham Ziedonis: **The Patent Paradox Revisited: An Empirical Study of Patenting in the US Semiconductor Industry, 1979-95**

- **2583rd Council Meeting Competitiveness** (Internal Market, Industry and Research)
Brussels, 17 and 18 May 2004 (Press Release) President Ms Mary Harney.
(http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/intm/80522.pdf)

- Robert A. Hulse: **Patentability of Computer Software After State Street Bank & Trust Co. V. Signature Financial Group, Inc. Evisceration of the Subject Matter Requirement** U.C. Davis Law Review

- Reinhard Knauer, James Bessen and Robert M. Hunt: **Recent Case Law of the EPO Regarding Software Business Methodrelated Inventions, A Reply to Hahn and Wallsten** (<http://www.researchoninnovation.org/hahn.pdf>)

- Stefan Bechtold: **Software Patents in Germany** University of Tübingen Law School, Germany (<http://papers.ssrn.com/abstract=240205>)

- A. Singsangob: **The Idea of Software Patent Protections**
(http://legalaid.bu.ac.th/files/articles/The_Idea_of_Software_Patent_Protections.pdf)

- Daniel A. Tysver: **Why Protect Software Through Patents**
(<http://www.bitlaw.com/software-patent/>)

- **Case Law of the Boards of Appeal of the European Patent Office** Fourth Edition
December 2001 edited by: Legal Research Service for the Boards of Appeal.

- Robert Hart, Peter Holmes and John Reid: **Study Contract ETD/99/B5-3000/E/106:
The Economic Impact of Patentability of Computer Programs**, a Report to the
European Commission.