

EU Software Patent Directive Core Amendments

<http://swpat.ffii.org/papers/eubsa-swpat0202/prop/mini/index.en.html>

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A few amendment proposals which are absolutely necessary if algorithms and business methods such as Amazon One Click Shopping are not to be considered patentable inventions.

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1 Title

Amendment

Proposal for a
DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
on the patentability of computer-implemented inventions

Proposal for a
DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
on the limits of patentability
with respect to automated data processing
and its fields of application

Justification

The term “computer-implemented invention” is not used by computer professionals. It is in fact not in wide use at all. It was introduced by the European Patent Office (EPO) in May 2000 in Appendix 6 of the Trilateral Conference, where it served to legitimate business method patents, so as to bring EPO practise in line with the USA and Japan. Much of the European Commission’s directive proposal is based on wordings from this “Appendix 6”. The term “computer-implemented invention” is a programmatic statement. It implies that calculation rules framed in the terms of the general-purpose computer are patentable inventions. This implication is in contradiction with Art 52 EPC, according to which algorithms, business methods and programs for computers are not inventions in the sense of patent law. It can not be the aim of the current directive to declare all kinds of “computer-implemented” ideas to be patentable inventions. Rather the aim is to clarify the limits of patentability with regard to automatic data processing and its various (technical and non-technical) fields of application, and this must be expressed in the title in plain and unambiguous wording.

2 Harmonisation

Amendment

[Recitals 1-19 and Articles 1-8 deleted]

Member States shall ensure that patents on computerised innovations are upheld and enforced only if they were granted according to the rules of Art 52 of the European Patent Convention of 1973, as explained in the European Patent Office's Examination Guidelines of 1978.

Justification

This amendment achieves full clarification and ensures that the European Court of Justice can harmonise caselaw if needed. The directive proposal is full of redundancy and in order to shut the doors to unlimited patentability which it opens, it would be necessary to amend each single amendment and article. Yet such amendments, as we propose below in case this amendment is not adopted, only fix bugs in a bloated directive draft without providing much clarity beyond what is already found in the European Patent Convention.

3 Relation to Art 27 TRIPs: “Technology”, “Industry” and “Invention”

Art 27 of the TRIPs of 1994 has often been cited as a reason to reinterpret Art 52 EPC in a way that widens the scope of patentability. At a hearing in 1997 in London, Paul Hartnack, comptroller of the UK Patent Office, formulated a question which legislators still need to answer today:

Some have argued that the TRIPs agreement requires us to grant patents for software because it says “patents shall be available for any inventions in all fields of technology, provided they are capable ... of industrial application”. However, it depends on how you interpret these words.

Is a piece of pure software an invention? European law says it isn't.

Is pure software technology? Many would say no.

Is it capable of “industrial” application? Again, for much software many would say no.

TRIPs is an argument for wider protection for software. But the decision to do so should be based on sound economic reasons. Would it be in the interests of European industry, and European consumers, to take this step?

The answer, as shown by various studies conducted by the European Union and others, can only be “No”. And this answer apparently needs to be laid down in a clarificatory law.

3.1 Positive Definition of Technical Invention (Article 2)

Amendment

“Technology” in the sense of patent law means “applied natural science”. “Technical” in the sense of patent law means “concrete and physical”.

Justification

We do not want “financial technology” or “social engineering” to be patentable. TRIPs obliges us to define “technology” and related terms and to rely on them for delimiting what is patentable. The above definition is explicitly or implicitly used by all patent jurisdictions, including the EPO.

Amendment

“Industry” in the sense of patent law means
“automated production of material goods”.

Justification

We do not want innovations in the “music industry” or “legal services industry” to meet the TRIPs requirement of “industrial applicability”. The word “industry” is nowadays often used in extended meanings which are not appropriate in the context of patent law.

Amendment

“Invention” in the sense of patent law means
“solution of a problem by use of controllable
forces of nature”.

Justification

This is a standard patent doctrine in most jurisdictions. The EPO says that inventions are “technical solutions of technical problems” and understands “technical” as “concrete and physical”. The term “controllable forces of nature” clarifies this further. The “four forces of nature” are an acknowledged concept of epistemology (theory of science). While mathematics is abstract and unrelated related to *forces of nature*, some business methods may well depend on the chemistry of the customer’s brain cells, which is however not *controllable*, i.e. non-deterministic, subject to free will. Thus the term “controllable forces of nature” clearly excludes what needs to be excluded and yet provides enough flexibility for inclusion of possible future fields of applied natural science beyond the currently acknowledged “4 forces of nature”. This concept has been formulated in most jurisdictions and even written into the law in some countries such as Japan and Poland. Even the CEC and JURI proposals say that “algorithms and business methods are inherently non technical”, and the JURI report associates “technical contributions” with “mobile phones, household appliances, engine control devices, ...”. The classical justification for the “technical character” of “computer-implemented inventions” is not that the meaning of “technical” has changed but that the computer indeed consumes energy in a controlled way, and that the “invention” must be “considered as a whole”. The critics of this view, e.g. the German Federal Patent Court, argue that “the solution is completed by abstract calculation before, during its non-inventive implementation on a conventional data processing system, forces of nature come into play”.

3.2 Negative Definition of Technical Invention (Article 3)

Amendment

Member states shall ensure that data processing is not considered to be a field of technology in the sense of patent law, and that innovations in the field of data processing are not considered to be inventions in the sense of patent law.

Justification

This is a restatement of Art 52 EPC in the terminology of Art 27 TRIPs. It corresponds to CULT Amendment 9 and JURI Amendment 46, of which the former received majority support. Data processing is functional abstraction from applications in technical as well as non-technical fields. It is as ubiquitous as reading and writing: a universal cultural technique. Data processing is nowadays automated, but the implementation details of the abstract machines (universal computers) are irrelevant for the art of data processing. Computers may be built on silicon or neurons or wood, and all run the same programs. As was pointed out already by the framers of the European Patent Convention in the 1970s: monopolisation of innovations in automated data processing means monopolisation of abstract thought in all its practically relevant applications. Numerous studies moreover show that data processing patents stifle innovation. Europe will suffer damage if does not once again explicitly exclude data processing from the realm of patentable fields.

4 Patents, Copyright and Freedom of Publication (Article 5.a)

Amendment

Member states shall ensure that the publication or distribution of copyrightable objects, including computer programs, can never constitute a direct or indirect patent infringement.

Justification

This is to explain how the patent rights are limited by other legal values such as freedom of publication (Art 10 ECHR) and property in individual creations (intellectual property, in the case of software: copyright). This amendment makes it clearer that both freedom of publication and the right to control one's individual creations (copyright) are more fundamental than patent rights and therefore constitute a limit on the allowable scope of patent rights. Wherever copyright is applicable, patents are not, and vice versa. The principle of "maximal separation of spheres of intellectual property" is stated in the Dispositionsprogramm¹ (1976) and Betriebssystem² (1990) decisions of the German Federal Court of Justice, and it underlies Article 52 of the European Patent Convention.

¹<http://swpat.ffii.org/papers/bgh-dispo76/index.en.html>

²<http://swpat.ffii.org/papers/bgh1-bs90/index.de.html>

5 Other important Amendments

If MEPs still want to focus on a small set of amendments without deleting the body of the directive, we recommend the following in addition to the minimal set outlined above. But we must warn: as long as not every recital and every article of the CEC/JURI text is deleted or amended, some doors to unlimited patentability will still be open and the unwanted logic patents can be expected to creep in.

5.1 Article 1: Definition of “computer-implemented invention”

Amendment

“computer-implemented invention” means 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 realised wholly or partly by means of a computer program or computer programs;

“computerised invention”, also called “computer-implemented invention”, means an innovation the implementation of which involves the use of a data processing system in connection with peripheral devices, and which, due to the way in which the peripheral devices are used, is considered to be an invention in the sense of patent law.

Justification

The term “computer-implemented invention” is not used by computer professionals. In fact it is not in wide use at all. It was introduced by the EPO in 2000 in an attempt to legitimate patents on “computer-implemented business methods”. It suggests that ideas which can be put to work merely by executing a program on generic computing equipment are patentable inventions. This amendment eliminates the confusion. It makes it clear that an inventive washing machine does not cease to be an invention just because it is controlled by a computer. In a EU Press Release (“MEPs vote to tighten up rules on patentability of computerised inventions”, Date: 2003-06-18, on cordis.lu) about this directive, the term “computerised inventions” was introduced, and it was explained that “such inventions do not cover ordinary software programs, but rather solutions for devices such as mobile phones, intelligent household appliances, engine control devices, ...”. Indeed the term “computerised invention” depicts more intuitively than “computer-implemented invention” what MEPs meant to be patentable: inventive use of hardware which has been placed under the control of a data processing system.

5.2 Article 4(a)bis [NEW]: Computing Efficiency not Technical

Amendment

Member States shall ensure that computer-implemented solutions to technical problems are not considered to be patentable inventions merely because they improve efficiency in the use of resources within the data processing system.

Justification

This amendment reflects current caselaw in Germany. In the words of the justices of the German Federal Patent Court (BPatG, decision of 26. March 2002, 17 W (pat) 69/98, <http://swpat.ffi.org/papers/bpatg17-suche02/index.de.html>):

The applicant sees as a decisive indication of technicality of the method that it is based on a technical problem. Because the proposed method does not need a dictionary, the memory space for this can be saved. [...] As far as the technical problem is concerned, this can only be considered as an indication but not as a proof of technicality of the process. If computer implementations of non-technical processes were attributed a technical character merely because they display different specific characteristics, such as needing less computing time or less storage space, the consequence of this would be that any computer implementation would have to be deemed to be of technical character. This is because any distinct process will have distinct implementation characteristics, that allow it to either save computing time or save storage space. These properties are, at least in the present case, not based on a technical achievement but result from the chosen non-technical method. If the fact that such a problem is solved could be a sufficient reason for attributing a technical character to a computer implementation, then every implementation of a non-technical method would have to be patentable; this however would run against the conclusion of the Federal Court of Justice that the legal exclusion of computer programs from patentability does not allow us to adopt an approach which would make any teaching that is framed in computer-oriented instructions patentable.

5.3 Art 4(3): Technical Contribution consisting of Non-Technical Features?

Amendment

The technical contribution shall be assessed by consideration of the difference between the scope of the patent claim considered as a whole, elements of which may comprise both technical and non-technical features, and the state of the art.

The technical contribution shall be assessed by consideration of the difference between the scope of the technical features of the patent claim as a whole and the state of the art.

Justification

The Commission and JURI versions imply that a “technical contribution” can consist solely of non-technical features. This is self-contradictory and leads to unlimited patentability. Amendment CULT-15 corrects the error, as far as possible.

5.4 Art 4(2): Technicity and Non-Obviousness are Separate Requirements!

Amendment

Member States shall ensure that it is a condition of involving an inventive step that a computer-implemented invention must make a technical contribution.

Member states shall ensure that it is a condition of constituting an invention in the sense of patent law that an innovation, regardless of whether it involves the use of a computer or not, must be of technical character.

Justification

Non-obviousness (= “inventive step”) and the presence of a technical invention (= “technical contribution”) are two separate requirements. Merging them into one is counter-intuitive and leads to practical problems, among others that the invention needn’t be new and that patent offices are no longer entitled to reject patents on non-inventions without first conducting a wasteful prior art search.

5.5 Article 5: Forms of Claims

Amendment

Member States shall ensure that a computer-implemented invention may be claimed as a product, that is as a programmed computer, a programmed computer network or other programmed apparatus, or as a process carried out by such a computer, computer network or apparatus through the execution of software.

Member States shall ensure that a computerised invention may be claimed as a product, that is a set of devices connected to a data processing system, or as a process carried out by such devices.

Justification

This article explains the meaning of the terms “product” and “process” in the context of computerised inventions. The original version interprets both terms correctly but has an undesirable side-effect: it suggests that algorithms framed in terms of generic computing equipment (programs for computers as such) are or can be “inventions”. The amendment corrects the error. The inventive products and processes are characterised not by the data processing system but by the peripheral devices, which could e.g. be an automobile brake, a rubber-curing furnace or a washing machine.

5.6 Art 6.a: Freedom of Interoperation for Data Processing Systems

Amendment

Member States shall ensure that wherever the use of a patented technique is needed for the sole purpose of ensuring conversion between the conventions used in two different data processing systems so as to allow communication and exchange of data content between them, such use is not considered to be a patent infringement.

Justification

This is ITRE-15 with a slight modification: “computer system or network” was replaced with the “data processing system”, so that it is clear that not merely interoperability between computer architectures (e.g. IBMPC and Mac) but between any kind of software systems is protected. As the ITRE justification says:

The possibility of connecting equipments so as to make them interoperable is a way of ensuring open networks and avoiding abuse of dominant positions. This has been specifically ruled in the case law of the Court of Justice of the European Communities in particular. Patent law should not make it possible to override this principle at the expense of free competition and users.

5.7 Recital 11: Fields of Technology

Amendment

Although computer-implemented inventions are considered to belong to a field of technology, in order to involve an inventive step, in common with inventions in general, they should make a technical contribution to the state of the art.

While computer programs are abstract and do not belong to any particular field, they are used to describe and control processes in all fields of applied natural and social science.

Justification

The Commission text declares computer programs to be technical inventions. It removes the independent requirement of invention (“technical contribution”) and merges it into the requirement of non-obviousness (“inventive step”). This leads to theoretical inconsistency and undesirable practical consequences, as explained in detail in the justification of our amendment to 4(2).

6 Annotated Links

- **EU Software Patent Directive Amendment Proposals¹**

The European Commission proposed on 2002-02-20 to consider computer programs as patentable inventions and make it very difficult not to grant a patent on an algorithm or a business method that is claimed with the typical features of a computer program (e.g. computer, i/o, memory etc). We have worked out a counter-proposal that upholds the freedom of computer-aided reasoning, calculating, organising and formulating and the copyright property-based property rights of software authors while supporting the patentability of technical inventions (problem solutions involving forces of nature) according to the differentiations that have been laid down in the European Patent Convention (EPC), the TRIPs treaty and the classical patent law literature. This counter-proposal is receiving support from numerous prominent players in the fields of software, economics, politics and law.

- **JURI 2003/04-6 Amendments: Real and Fake Limits on Patentability²**

Members of the European Parliament's Commission on Legal Affairs and the Internal Market (JURI) submitted amendments to the European Commission's software patent directive proposal. While some MEPs are asking to bring the directive in line with Art 52 EPC so as to clearly restate that programs for computers are not patentable inventions, another group of MEPs is endorsing the EPO's recent practice of unlimited patentability, shrouded in more or less euphemistic wordings. Among the latter, some propose to make programs directly claimable, so as to ensure that software patents are not only granted but achieve maximal blocking effects. This latter group obtained a 2/3 majority, with some exceptions. We document in tabular form what was at stake, what various parties recommended, and what JURI finally voted for on 2003/06/17.

- **FFII: Software Patents in Europe³**

For the last few years the European Patent Office (EPO) has, contrary to the letter and spirit of the existing law, granted more than 30000 patents on computer-implemented rules of organisation and calculation (programs for computers). Now Europe's patent movement is pressing to consolidate this practise by writing a new law. Europe's programmers and citizens are facing considerable risks. Here you find the basic documentation, starting from a short overview and the latest news.

¹<http://swpat.ffii.org/papers/eubsa-swpat0202/prop/index.en.html>

²<http://swpat.ffii.org/papers/eubsa-swpat0202/juri0304/index.en.html>

³<http://swpat.ffii.org/index.en.html>