

II

(Preparatory Acts)

COMMISSION

Proposal for a Council Directive on the legal protection of computer programs*COM(88) 816 final — SYN 183**(Submitted by the Commission on 5 January 1989)**(89/C 91/05)***Explanatory memorandum**

CONTENTS

PART ONE: GENERAL	Page
1. Introduction	5
2. The need for action	5
I. The nature of the intellectual property	5
II. Existing protection measures	6
III. Harmonization of protection measures	6
3. The type of intellectual property protection retained	6
I. Patents	6
II. Contract	6
III. Copyright	7
4. Relation to international conventions	8
5. The legal basis	8
 PART TWO: PARTICULAR PROVISIONS	
Object of protection	9
Authorship of program	9
Beneficiaries of protection	10
Restricted acts	10
Exceptions to the restricted acts	11
Secondary infringement	12
Term of protection	12

PART ONE: GENERAL

1. Introduction

1.1. For the purposes of this proposal, the term 'computer program' is used. This means a set of instructions the purpose of which is to cause an information processing device, a computer, to perform its functions. The program, together with the supporting and preparatory design material which have made possible the creation of the program, can also be called 'computer software'. All such material is intended to be covered by the provisions of this proposal in so far as it can be demonstrated that, from the material in question, a form of program has been or could be created. However, it is not thought advisable to include a definition in the Directive to avoid it becoming outdated. Where the material is of a nature such that it could not lead to the creation of a program, for example, a user manual accompanying a program, although the material will not be protected as part of the computer program, protection by copyright or other means may nevertheless apply.

1.2. Computer technology now plays a significant role in almost every aspect of the social and economic life of the Community, in fields as diverse as leisure, medicine, banking, education, transport, commerce and industry. It follows that the programs which are devised to cause the computer to perform its functions occupy a place of growing importance alongside the other more traditional expressions of the human intellect, such as works of literature, art or music, or industrial designs and inventions. The size and growth of the computer industry is such that its importance in the economy of the Community cannot be over-emphasized.

1.3. It is essential to create a legal environment which will afford a degree of protection against unauthorized reproduction to the computer program which is at least comparable to that given to works such as books, films, music recordings or industrial designs, if research and investment in computer technology are to continue at a sufficient level to allow the Community to keep pace with other industrialized countries. In particular, as regards small and medium sized enterprises it is important that their ability to create and market innovative software is not significantly reduced by unauthorized reproductions of their products. Protection must therefore be strengthened and made uniform throughout the Community as much in the interests of the specialized small and medium sized software firms which can contribute so much to the future success of the European software industry as in the interests of the existing major producers.

Without such a legal environment, the intellectual effort and financial resources employed to devise computer programs are put at risk by the ease with which the program can be reproduced, imitated or counterfeited. If the level of protection given to computer programs in Member States should fall below that accorded to programs created in other countries it is evident that the work of European innovators in this fast moving and highly competitive field will be easily appropriated by predatory activities from outside the Community.

1.4. An adequate level of protection should therefore be unequivocally enshrined in the laws of all Member States and any difference which could affect the functioning of the common market should be eliminated. Common principles are not only necessary in order to promote the free circulation of computer software within the Community without any restrictions due to diverging intellectual property rules, but also to create conditions in which industry can take advantage of the single market. The current absence of such clear and congruent legislative provisions in Member States concerning the rights of authors of computer programs has thus prompted the Commission to make this proposal to the Council.

2. The need for action

2.1. In establishing the need for action to harmonize computer program protection, the Commission has had regard for three factors: the nature of the intellectual property to be protected, the protection measures existing at present in Member States and the need to harmonize those protection measures throughout the Community.

I. THE NATURE OF THE INTELLECTUAL PROPERTY

2.2. As far as the property right is concerned, a computer program, in common with other works protected by intellectual property legislation, is the result of a creative intellectual human activity. While its mode of expression or fixation may still be unfamiliar to many, the degree of creativity, skill and inventiveness required to devise a program make it no less deserving of protection than other works protected by copyright. The fact that computer programs have a utilitarian function does not change this.

2.3. These elements of creativity, skill and inventiveness manifest themselves in the way in which the program is elaborated. The tasks to be performed by a computer program need to be defined and an analysis of the possible ways to achieve these results must be carried out. A selection has to be made of the various solutions and the steps to achieve the end result must be listed. The way in which these steps are expressed gives the program its particular characteristics of speed, efficiency and even style. A program has a structure, with sections and subsections, through which information flows. In common with other literary works, the computer program also has an underlying logic in the presentation of the various steps.

2.4. These steps, the algorithms, from which the program is built up, should not be protected as such against unauthorized reproduction. They are the equivalent of the words by which the poet or the novelist creates his work of literature, or the brush strokes of the artist or the musical scales of the composer.

2.5. As with literary works in general, protection can only be envisaged for a computer program from the point at which the selection and compilation of these elements indicate the creativity and skill of the author, and set his work apart from that of other authors.

2.6. It is evident that the more simple and limited the functions which the program requires the computer to perform, the more simple the program will be. Similarities between programs are thus inevitable where the tasks are similar and the solutions limited in number. The steps by which the computer will arrive at the completion of its task will also be similar, even identical from one program to another, where the task, the solution and the steps required to achieve it are extremely simple.

Provided that copying does not take place, a program maker might, in theory, even produce an entire program which bears a very great similarity to existing programs, where the tasks to be performed are identical and the degree of complexity of operations is very low.

2.7. In practice, computer programs are rarely of such simplicity that authors will arrive at totally identical programs, independently of each other. On the other hand many sub-routines which programmers habitually use in order to build up programs are in themselves commonplace in the industry and the originality of the program may lie in the selection and compilation of these otherwise commonplace elements.

2.8. The success of the program in terms of its ability to perform the task for which it is required will to a large extent be conditioned by these choices made by the author of the program at every step along the way. This success will manifest itself in a program which is quicker, easier, more reliable, more comprehensive, more productive to use than its predecessors or its competitors.

II. EXISTING PROTECTION MEASURES

2.9. The following countries have explicitly recognized the protection of computer programs by copyright: Australia, Brazil, Chile, Dominican Republic, France, Federal Republic of Germany, Hungary, India, Indonesia, Japan, Malaysia, Mexico, Philippines, Republic of Korea, Singapore, Spain, Trinidad and Tobago, Turkey, United Kingdom, United States of America. Draft laws are also under consideration in a number of countries to the same effect, including Denmark, Italy and the Netherlands.

2.10. The analysis of the existing copyright legislation in the Member States already reveals one major difference: the term of protection ranges from 25 years from creation to 70 years after the death of the author. Further divergences appear if the interpretation of the law by courts is taken into account. It is true that so far courts have had only a limited number of opportunities to judge cases involving the protection of computer programs, but as regards one basic condition for protection, the originality criterion, diverging interpretations exist between Member States, which result in a difference in the range of computer programs which can be considered protected by copyright. There is similar uncertainty as to the scope of protection afforded to computer programs by copyright protection.

III. HARMONIZATION OF PROTECTION MEASURES

2.11. Such differences in legislation can only be allowed to remain if they do not affect the functioning of the internal market. Intellectual property rights, which are by their very

nature territorial rights merit special attention to ensure that they do not result in new barriers or perpetuate existing barriers to intra-Community trade. Divergencies and uncertainty concerning the scope of protection and the different duration of exclusive rights may not only affect the free circulation of computer programs in the Community but may also influence the decision to establish new firms or commercial initiatives and thus create a distortion of competition.

2.12. The aim of the present proposed Community action is therefore to establish legal protection in those Member States where it does not yet clearly exist and to ensure that the protection in all Member States is based on common principles. These principles can be summarized as follows:

- computer programs are protected as literary works by exclusive rights under copyright,
- the person in whom the right arises is defined,
- the acts which require authorization of the right holder and the acts which do not constitute an infringement are determined,
- the term and the conditions for protection of the program are defined.

3. The type of intellectual property protection retained

3.1. Although it has been clearly established that there is a need for legal protection in this field and that divergences in legislation in Member States could bring about a situation in which the functioning of the internal market is adversely affected, the question has been raised as to whether copyright is the most appropriate mode of protection to choose. A number of forms of legal protection exist and have been applied already in practice to protect computer programs.

I. PATENTS

3.2. As regards patent protection, this possibility seems to be limited in all Member States to those programs which form part of a patentable invention having a technical character and which meet the normal criteria for patentability. But even for the limited group of computer programs which may satisfy most of these conditions the requirement of an inventive step will lead, in the case of a large majority of valuable computer programs, to the conclusion that the conditions for patent protection are not fulfilled. The inventive step may often pertain to the algorithms underlying the programs, which have normally to be considered unpatentable, like any mathematical formulae, principle or natural law. Therefore, patent protection can play a limited role in the legal protection of computer programs, but does not provide an adequate solution for the basic legal protection of such works.

II. CONTRACT

3.3. As regards contract law, this is a valuable form of protection in so far as individual contractual relations exist and respect of the contract clauses can be controlled. Much of the

software put on the market today is subject to licence agreements between right holder and user. Indeed, this is the normal mode of commercialization for all but the most simple, mass-produced software, such as games or standard business packages. Such licence agreements allow right holders to circumscribe the activities of users in respect of all the acts connected with the use of the program. The user is free to accept or reject the limitations on his activities which the licensing contract proposes. However, in some areas, the balance of power between producers and users of computer programs may not permit the latter to negotiate equitable contract conditions, due to the market strength of some software suppliers. Therefore, it seems necessary to provide for basic principles of protection which apply regardless of specific contractual provisions. Nevertheless, individually negotiated arrangements should be possible as long as they are not in conflict with the applicable competition law.

3.4. Contract law alone does not provide efficient protection against most forms of misappropriation. In particular, as regards mass-marketed programs for personal computers and computer games which do not need maintenance, contract law does not provide an adequate means to prevent the copying and use of computer programs by third persons. Nor is it entirely clear whether the practice of so-called 'shrink-wrap licensing' where use conditions are attached to a product which is, to all intents and purposes 'sold' to the user, constitutes a valid licence in all circumstances and in all jurisdictions.

3.5. It is therefore proposed that the granting and limitation of exclusive rights in computer programs should reflect these different modes of commercial exploitation, outright sale, and licensing. Where 'sale', in the normal sense of the word occurs, certain rights to use the program must be taken to pass to the purchaser along with the physical copy of the program. Where licensing takes place in the conventional sense by means of a written contract signed by both parties, the rights to use the program which has been provided will, with a limited number of exceptions, remain circumscribed by contractual arrangements. The choice remains open for the supplier then to decide on the most appropriate form of commercialization for his product, and for the user to manifest his preference for an outright purchase or a licensing agreement.

III. COPYRIGHT

3.6. The overwhelming weight of evidence submitted to the Commission during the consultation process which followed publication of the Green Paper indicated that protection by copyright is the most appropriate measure to adopt. Given the trend towards copyright as the best available means to ensure the international protection of programs not only among Member States but among the major trading partners of the Community, it is hardly surprising that so many commentators on the Green Paper have indicated that harmonization of copyright laws within the Community is now becoming a priority. It is further believed that within the framework of copyright, protection as a literary work is desirable. Copyright

can provide the solution of ensuring adequate protection against misappropriation and, in particular, against unauthorized reproduction. Copyright has already in the past proved its capacity to adapt to new technologies, such as films and broadcasts. Copyright protection does not grant monopolies hindering independent development. Copyright protects only the expression but not the underlying idea of a work. It does not therefore block technical progress or deprive persons who independently developed a computer program from enjoying the benefits of their labour and investment.

3.7. Protection by copyright allows a clear balance to be achieved between too little protection and over-protection. It provides sufficient flexibility to permit a fair compromise between the divergent interests of producers or suppliers on one side and users of computer programs on the other. But the main advantages of this type of intellectual property protection relate to the fact that the protection covers only the individual expression of the work and gives thus sufficient flexibility to permit other authors to create similar or even identical programs provided that they abstain from copying. This is particularly important because the number of algorithms available, on which computer programs are based, is considerable, but not unlimited.

3.8. Some countries have introduced 'genre specific' provisions in their copyright law to accommodate possible differences between computer programs and other more traditional literary works. Such 'genre specific' provisions should be kept to a minimum if the full benefit of the established copyright protection granted under the Berne and Universal Copyright Conventions is not to be overly diluted. Accordingly, the present Directive seeks as far as possible to stay within the common parameters of literary work protection as it exists today in the Member States of the EC.

3.9. Computer program protection by means of copyright raises two particular issues, that of standardization of aspects of programs in the interests of greater inter-operability of hardware and software, and that of availability of information concerning the access protocols and interfaces which ensure such inter-operability. Moves towards greater standardization of products within the computer and telecommunications industries are well under way, through the encouragement and initiatives of both the Commission itself and the industries concerned. Many aspects of computer hardware and software inter-operability are already governed by the International Standards Organization's Open Standards initiative. In addition, the existence of bodies such as X-Open indicates a willingness on the part of industry to cede proprietary rights in some parts of programs into the public domain in order to achieve greater compatibility between systems. The provisions of this Directive should contribute to the trend towards a greater use of standardization in so far as they determine with more legal certainty what are the exclusive rights of the author of the program.

3.10. As regards the question of the protection of 'access protocols and interfaces' themselves, the question was raised in the Green Paper as to whether copyright protection should apply to these parts of programs.

3.11. In order to produce inter-operative systems it is necessary to replicate the ideas, rules or principles by which interfaces between systems are specified, but not necessarily to reproduce the code which implements them. Ideas, rules or principles are not copyrightable subject matter. Such ideas, rules or principles may be used by any programmer in the creation of an independent implementation of them in an inter-operative program.

3.12. Competitors are therefore free, once they establish through independent analysis which ideas, rules or principles are being used, to create their own implementation of the ideas, rules or principles in order to make compatible products. They may build on the identical idea, but may not use the same expression as that of other protected programs. There is thus no monopoly on the information itself, but only a protection of the form of expression of that information.

3.13. If similarities in the code which implements the ideas, rules or principles occur as between inter-operative programs, due to the inevitability of certain forms of expression, where the constraints of the interface are such that in the circumstances no different implementation is possible, then no copyright infringement will normally occur, because in these circumstances it is generally said that idea and expression have merged.

3.14. Although it is technically possible to decompile a program in order to find out information concerning access protocols and interfaces this is a lengthy, costly and inefficient procedure. It is usually more efficient for the parties concerned to agree on the terms under which the information will be made available. Problems of access to information may have to be addressed by other means which are outside the scope of this Directive.

3.15. In view of the rapid evolution of the computer industries the Commission will keep all these matters under constant review.

4. Relation to international conventions

Copyright has the added advantage of affording a high level of international protection to works so covered, through the application of the Berne and Universal Copyright Conventions. Although neither convention expressly mentions computer programs among the works to be covered by copyright it is generally understood that as new forms of intellectual property are developed they will be encompassed by the conventions in so far as the same kinds of creativity are involved in the elaboration of such new forms of work as for existing works. The conclusion that computer programs are indeed literary 'works' within the meaning of the Berne and Universal Copyright Conventions leads to the assumption that where a Member State grants protection under the Berne Convention it will apply the principle of national treatment. Whatever the theoretical merits of *'sui generis'* legislation in this field might be, they are far outweighed by the advantages of the existence of these international conventions.

5. Legal basis

5.1. In its White Paper on the completion of the internal market, the Commission stated its intention to pay particular attention to the introduction of a Community framework for the legal protection of software and announced a proposal for a Directive. The present proposal therefore forms part of the Commission's program for the completion of the internal market before 31 December 1992.

5.2. It follows from the approach of fixing basic common principles that a Directive is the appropriate legal instrument to harmonize the laws of the Member States as regards the legal protection of computer programs.

5.3. Because differences in and uncertainties regarding the legal protection of computer programs can have a negative effect on the functioning of the common market in these products, Article 100A is the appropriate legal basis for the present proposal.

For the completion of the internal market before 31 December 1992, Article 100A, first paragraph, second sentence, provides by way of derogation from Article 100:

'The Council shall, acting by a qualified majority on a proposal from the Commission in cooperation with the European Parliament and after consulting the Economic and Social Committee, adopt the measures for the approximation of the provisions laid down by law, regulation or administrative action in Member States which have as their object the establishment and functioning of the internal market'.

Article 8A, second paragraph, defines the internal market as comprising 'an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured in accordance with the provisions of this Treaty'.

5.4. The present proposal will favour the free circulation of computer programs in so far as industry in those countries with clear and established protection of computer programs is currently in a more favourable position than that in countries where protection is uncertain; such differences in legal protection distort the conditions of establishment and of competition in Member States for firms which engage in activities concerned with computer programs. This situation may affect the growth of the Community software industry and the operation of the internal market. In addition by harmonizing the conditions under which the results of research and development in the computer program field are legally protected on a uniform basis in the Member States, innovation and technical progress throughout the Community will be encouraged.

5.5. In the preparation of this proposal the Commission has taken into account the requirements of Article 8C of the EEC Treaty and has concluded that no special provisions or derogations seem warranted or justified at this stage.

5.6. Likewise the Commission has studied the question of the high level of health/safety/environmental and consumer protection required by the terms of Article 100A (3) of the EEC Treaty.

It has done so following consultation with the industrial and social partners concerned, and in the light of an analysis of the risks inherent in this area and of the current technical capabilities of European industry. The proposal takes full account of these considerations in the light of the overall objectives of this provision of the Treaty.

PART TWO: PARTICULAR PROVISIONS

Article 1

Object of protection

1. The words 'computer program' are not defined for the purposes of this Article. It has been recommended by experts in the field that any definition in a directive of what constitutes a program would of necessity become obsolete as future technology changes the nature of programs as they are known today.

Given the present state of the art, the word 'program' should be taken to encompass the expression in any form, language, notation or code of a set of instructions, the purpose of which is to cause a computer to execute a particular task or function.

The term should be taken to encompass all forms of program, both humanly perceivable and machine readable, from which the program which causes the machine to perform its function has been or can be created.

Preparatory and design material such as flow charts or descriptions of sequences of steps in plain language will be included, as will embodiments of the program within the hardware itself, either permanently or in removable form. Material such as user manuals or maintenance manuals will not be considered to be parts or manifestations of the program, except that where substantial parts of the program are reproduced therein, those extracts from the program will be protected by copyright in the program independently from any rights which may subsist in the manual or other documentation.

2. Member States shall be required to apply the same provisions for the protection of computer programs as apply to literary works. A program has all the characteristics of a literary work, namely that it is the expression in language and in a perceivable form from which it can be reproduced of an idea or series of ideas, created by the expenditure of human skill and labour. The fact that the language may be only comprehensible to those skilled in the art, and that some manifestations of the program may take forms which are not at all times comprehensible to the human senses does not preclude protection as a literary work, since other literary works may also be embodied in carriers which require a mechanical device to render them perceivable to the human mind.

In order to avoid legal uncertainty, computer programs must be protected as literary works and not 'as if' they were literary works or 'assimilated to' literary works. Similarly they should not be treated as a new and separate 'sub-category' of literary work. Failure to accord the full protection given to literary works generally in Member States could result in divergencies in the nature and scope of protection and in uncertainties as to the level of protection afforded to such works under the Berne and Universal Copyright Conventions.

3. Copyright protects the expression of ideas but not the ideas themselves. Therefore the protection given to computer programs will extend to the program as a whole, and to its constituent parts, in so far as they represent a sufficient degree of creativity to qualify as 'works' in themselves. The only

criterion which should be applied to determine the eligibility for protection is that of originality, that is, that the work has not been copied. No other aesthetic or qualitative test should be applied. Sub-routines and routines which go together to form modules which in turn form programs may all qualify for protection independently of the protection given to the program as a whole, that is, as a compilation of such elements. The algorithms which go to make up the sub-routines are not normally in themselves capable of receiving protection under copyright in so far as they are similar in nature to mathematical formulae. They may in exceptional circumstances attract patent protection. Similarly, the ideas, principles, or logic which underlie the program will not be copyrightable.

4. (a) Many algorithms and many sub-routines are commonplace in the industry. They may have been placed or have fallen into the public domain or they may be *de facto* standard routines or algorithms. Where a program is composed wholly or in part of such commonplace or unprotected algorithms and routines, it should nevertheless be protected as a compilation, provided that it is original in the abovementioned sense and that the creator demonstrated skill and labour in the creation of the compilation.

(b) An increasingly large number of programs are now generated by using a computer. This means that program A is used in order to create programs B, C and so on with some degree of human intervention in order to select the most appropriate means to achieve the objective. Program A could in this respect be likened to a literary work such as a dictionary which permits the creation of other literary works. Although much of the routine programming work is done by purely mechanical means, human effort is still nevertheless a critical element in the creative process. It is therefore proposed that in so far as programs generated by such means fulfil the criteria which would enable them to be categorized as 'original works' they should be protected in the same way as programs created without the aid of such machine generation processes.

Article 2

Authorship of program

1. In common with all literary works, the question of authorship of the program is to be resolved in favour of the natural person or persons who have created the work. Although the right to exercise exclusive rights may be assigned to another, the author will retain at least the unalienable rights to claim paternity of his work.

2. Copyright in a work created by a group of persons, which is normally the case with the development of computer programs, is to be exercised in common unless the persons concerned contract otherwise.

3. Computer programs are frequently created by freelance programmers working on particular projects on behalf of organ-

izations which have commissioned a given program. In such circumstances, unless the parties agree otherwise, it is normal that the person or entity which causes the work to be created should wish to retain the control over the exclusive rights in the program, with the exception of the right to claim paternity of the work mentioned in paragraph 2.1 above.

4. In circumstances where a programmer is employed to create programs within a company or organization, the employer will normally require that the exclusive rights in the program should remain within his control, with the exception of the right to claim paternity of the work, unless the parties agree otherwise. In respect of the circumstances described in this paragraph and in paragraph 2.3 above, it is the intention of this Directive that a certain measure of harmonization of current practice in Member States should be brought about. Nevertheless the freedom to negotiate contracts of employment and terms for commissioned works must remain to a large extent a subject for contractual negotiation between the parties.

In respect of other aspects of authors' moral rights such as the right to maintain the integrity of the work, the nature of computer programs is such that substantial modification and re-utilization of parts of programs is constantly taking place and the concept of integrity of the work is of much less relevance to the author's interests than has traditionally been the case with other literary works.

5. As indicated in 4 (b), a large number of works are now generated by means of a computer program which serves as a tool to generate new programs. The question arises as to whether authorship of these programs generated by the first computer program should reside with the creator of the first program, or with the person who causes it to generate other works. Since the first program is no different in its function from any other tool used to create a work, such as an instruction manual by means of which another work is created, it would seem appropriate that the person who uses such a tool to generate programs should be considered as the creator of those programs. In practice, such a person may be the operator of the computer, or the natural or legal persons who retain the right to exercise the rights in programs which they have commissioned or which have been created by their employees. In these circumstances it is doubtful that a right to claim paternity of the programs generated by a machine could be upheld. The human input as regards the creation of machine generated programs may be relatively modest, and will be increasingly modest in future. Nevertheless, a human 'author' in the widest sense is always present, and must have the right to claim 'authorship' of the program.

Article 3

Beneficiaries of protection

1. Where the literary works of natural and legal persons are currently protected by copyright in Member States either by virtue of nationality or residence, in the case of natural persons, or by having a real and effective presence in a Member State in the case of legal persons, the same protection will apply for

computer programs. Where Member States afford protection on the basis of first publication of a literary work in a Member State, that criterion should also apply to computer programs. Thus the rules of national treatment under the Berne Convention will be applied to computer programs as to all other literary works.

2. As mentioned above, computer programs are frequently the creation of large teams of programmers, some of whom would not be currently eligible for protection under the residence, nationality or first publication criteria outlined in paragraph 1 above. This anomaly can be removed by extending the application of Articles 3 and 5 of the Berne Convention to all authors where a work has been created jointly, provided that at least one member of the group is able to establish a right to protection. In this way, programmers from outside the Community and in particular programmers from developing countries who cooperate on joint projects with programmers from Member States will not be unfairly disadvantaged.

Article 4

Restricted acts

1. (a) Under traditional copyright protection for literary works the author's exclusive rights comprise the right to control reproduction, adaptation and translation of his work. The Berne Convention does not expressly give a right to control the distribution of works but the exclusive rights in respect of reproduction are in practice exercised in most countries of the Berne Union to allow the author to determine how his work shall be put on the market.

The right to control reproduction given in Article 4 (1) (a) is fundamental to achieve adequate protection for computer programs. Unlike other forms of literary work, a computer program cannot serve its purpose unless it is 'reproduced'. This 'reproduction' should not be confused with 'replication'. The program may be re-created in part or in whole as part of the internal processes of the computer which runs it. No second permanent copy of the program is made during this process, although parts of the program will be 'reproduced' and stored in other parts of the memory of the computer during the operation of the program. These temporary copying, moving and storing operations may leave no trace once the operation of the machine has terminated. Thus 'copying' in the traditional sense of producing a second permanent version of an original does not normally take place unless a 'back-up' copy of the program is made. Nevertheless, where programs are licensed, reproduction without authorization should be prohibited, principally because all the acts which could be prejudicial to the author's interests, namely, loading, viewing, running, transmitting or storing the program cannot be performed except by means of a reproduction of the program.

Loading of the program is to be considered a restricted act in so far as it normally at the present time necessitates reproduction of the program in part or in whole. In future programs may be more often contained in media which can be inserted physically into the computer, such as chips, or may be an integral part of the hardware. In these circumstances, reproduction of the program may

no longer be necessary in order to work on it. For the present time, and in view of the risk of unauthorized users entering and corrupting programs, it is felt that loading should remain under the author's exclusive control. Similarly, viewing, running, transmission and storage of the program all involve reproduction and are potentially damaging to the right holder's interests. Computer programs are especially vulnerable not only to copying by electronic means but also to unauthorized adaptation, destruction or corruption, either for financial gain or for political objectives. Computer programs controlling banking, military or security operations must be protected against attack by 'hacking' — that is unauthorized entry into the system in order to remove, add or change information contained within it. Such acts of fraud or sabotage can only be controlled if authors have wide and enforceable powers to protect programs against reproduction.

It is essential to permit right holders to control the rental of programs which have been sold or licensed if copying of programs without authorization is to be prevented. It is possible at present to rent a copy of a software package at a nominal charge, to copy it at home using relatively inexpensive material and to return it the following day. It is clear that given the complexity of most programs and the fact that they are used for a given purpose rather than read for enjoyment, cheap, short-term rental allows the home copier to save on the cost of purchasing or leasing programs: as such, rental is highly prejudicial to right holders' interests and should be subject to the right to prohibition, with the limited exceptions indicated in Article 5 below.

Article 5

Exceptions to the restricted acts

- (b) Adaptation of a literary work normally implies transformation of a given text such as a novel into another literary 'genre' such as a play. Translation of a literary work is normally done from one human language into another. In the case of computer programs, whether the act is a translation from humanly readable form into machine readable form, or from one programming language to another, or an adaptation of a program designed to perform one task in order that it may perform another, the term 'adaptation' best describes the activities involved. It is therefore to be understood that 'adaptation' in this Directive includes 'translation'.
- (c) Distribution of a computer program by means of sale or licence is normally controlled by the author of the program, either directly if he is also the producer of the marketed product, or indirectly by assignment of his right to a publisher or producer of programs. The author's right is normally exhausted once the product has been put on the market with his consent. This Directive proposes that as regards the rental, leasing and licensing of software, the distribution right should not be exhausted by the first sale, leasing or licensing of the program. This will enable the right holder to exercise control over rental of products which have been previously sold, leased or licensed and to have continued control over the rental, leasing or licensing of products which have been previously distributed by these means. Once a product has been sold with the right holder's consent he should no longer be able to exercise control over subsequent sale, that is sale to third parties of legally acquired programs. Likewise, as regards importation for the purposes of sale, licensing, lease or rental, once the program has been imported into the Community with the author's consent, his right to control subsequent importation will be exhausted.

1. Where a program is sold to the public, it is normal that certain rights to use the property thus acquired should apply. These rights should of necessity include the right to use the program without further express authorization from the right holder. It should not be necessary to obtain the right holder's authorization in order to lend the program to a third party or to use it on a given piece of apparatus or in a given location. Similarly the acts of loading, viewing, running, transmission or storage should be taken as not requiring express authorization of the right holder provided that, particularly in the case of transmission and storage, they are only carried out for the purposes of using the program and do not result in a second permanent replication of the program. Thus temporary or permanent transmission to and storage by a second party of a program legally acquired by a purchaser for his own use will not fall within the exceptions to the restricted acts enumerated in Article 4, whereas such acts of transmission and storage performed by the purchaser temporarily for the purposes of using the program himself will not require authorization by the right holder. Similarly any form of reproduction other than that required for use will not be permitted, in particular, the making of a back-up copy or a copy for private use. Where a back-up copy is necessary for the purposes of use of a program this is normally expressly permitted by the right holder.

All reproduction should be controllable whether it is of part of the program or of the entire program, in that a partial reproduction may be sufficient to cause considerable economic harm to the author's interests, for example, by copying the protocol and interface program elements of a given program.

As regards the Anglo-Saxon law concept of 'fair dealing' by which reproduction of insubstantial parts of literary works is permitted in certain circumstances, it is believed that in respect of licensed programs, which constitutes the most common method of commercialization at present, the parties are free to

negotiate exceptions to the author's exclusive right to control insubstantial reproduction of the program if circumstances warrant such a derogation. In the case of programs which are sold or made available by means other than a written license agreement signed by both parties, the provisions which exist in the copyright laws of Member States in relation to exceptions to the exclusive rights of the author of a literary work should continue to apply in the case of computer programs.

Where the current practice of 'shrink-wrap' licensing applies, program producers impose conditions on the use of programs which have been in reality 'sold' to the consumer. The provisions of Articles 4 and 5 are intended to have as their effect that where software is licensed in the normal sense of the word, right holders will be able to exercise exclusive rights in respect of all acts of reproduction and adaptation, the exact provisions being the subject of contractual arrangements under the terms of the licence. But where no written, signed licence agreement is employed, as is the case with 'shrink-wrap' licences (the customer being merely advised by means of instructions contained within the packaging which surrounds the program carrier of his rights in respect of his purchase) the provisions of Article 5 (1) will allow the purchaser to assume the rights described above. This is a necessary compromise between the interests of suppliers and consumers of computer programs. Article 4 of the Directive gives wide powers to right holders to control the acts of reproduction, adaptation and distribution, but these powers should not in fairness be used to circumscribe the normal enjoyment of property by a person who legally acquires a program by purchase. If program producers wish to ensure the greater degree of control over the reproduction, adaptation and distribution of their programs which the system of licences permits, the would-be 'purchaser' of a program should be required to read and sign a legally binding licence agreement at the point of sale.

2. Adaptation and translation of programs are acts which the licensee of sophisticated programs may frequently wish to do in the course of normal use of the program. Many custom-made computer programs have not stabilized when they are supplied to end users; similarly many programs require correction in use or adaptation to changes in user requirements. This correction and adaptation work could in many instances be done by the user. However the supplier has a number of reasons for wishing to maintain his exclusive rights to control adaptation and translation. A guarantee and maintenance contract may attach to the program which has been supplied and such guarantee and maintenance arrangements may be invalidated or rendered expensive and impracticable if the licensee is able to constantly amend his licensed program. The supplier will also frequently set the licence rate to take into account the use which can be made of the program, in terms of the number of users and the amount of program which can be accessed. Such control is exercised by means of copy protection and metering systems incorporated in the program itself. If the user were able to adapt the program, he would be at liberty to remove these control mechanisms.

Therefore any adaptation and translation which is done should be subject to the right holder's control in the case of licensed software and should be the subject of contractual arrangements between supplier and user.

3. The exclusive right to control rental given in Article 4 (c) is subject to a derogation in favour of one group of users for whom special arrangements can and should be made. This is non-profit making public libraries where members of the public may go to use and to study computer programs. Libraries are able to control the use made of such programs by means of safeguards to prevent their duplication or their removal from the premises. It is important, given the need to encourage computer literacy in all sections of the Community, that libraries are able to offer computer programs for study by the public in the same way as they offer other literary works.

Article 6

Secondary infringement

1. In order to ensure that right holders may bring successful actions against infringers of the exclusive rights given in Article 4, it is necessary to provide for the cases where infringing copies have been put in circulation. The ease with which unauthorized copies of programs can be transferred electronically from one 'host' computer to another, across national borders and without trace, requires that the importation and possession of infringing copies should also be actionable as should be all dealing with infringing copies in the sense of selling, offering for sale, receiving, transmitting and storing such copies.

2. Many programs are marketed with a technical protection system which prevents or limits their unauthorized use or reproduction. If such systems are used by right holders to protect their exclusive rights, it should not be legally possible to remove or circumvent such systems without the authorization of the right holder. The term 'deal with' should be taken in this context to include sale, offer or advertise for sale, transmit, store or receive such means to circumvent protection systems, and to include also the communication of information as to the means for circumvention or removal of protection systems.

Article 7

Term of protection

Although the term of protection for literary works is life of author plus 50 years, attaching the term of protection to the life of a human author might cause some hesitations in the light of joint authorship of computer generated works and the length of term which will result. These hesitations outweigh the benefits of maintaining the classical 'literary work' term.

Proposal for a Council Directive on the legal protection of computer programs

THE COUNCIL OF THE EUROPEAN COMMUNITIES,

Having regard to the Treaty establishing the European Economic Community, and in particular Article 100A thereof,

Having regard to the proposal from the Commission,

In cooperation with the European Parliament,

Having regard to the opinion of the Economic and Social Committee,

Whereas computer programs are at present not clearly protected in all Member States by existing legislation and such protection, where it exists, has different attributes;

Whereas the development of computer programs requires the investment of considerable human, technical and financial resources while computer programs can be copied at a fraction of the cost needed to develop them independently;

Whereas computer programs are playing an increasingly important role in a broad range of industries and computer program technology can accordingly be considered as being of fundamental importance for the Community's industrial development;

Whereas certain differences in the legal protection of computer programs offered by the laws of the Member States have direct and negative effects on the functioning of the common market as regards computer programs and such differences could well become greater as Member States introduce new legislation on this subject;

Whereas existing differences having such effects need to be removed and new ones prevented from arising, while differences not adversely affecting the functioning of the common market to a substantial degree need not be removed or prevented from arising;

Whereas the Community's legal framework on the protection of computer programs can accordingly in the first instance be limited to establishing that Member States should accord protection to computer programs under copyright law as literary works and further in establishing who and what should be protected, the exclusive rights on which protected persons should be able to rely in order to authorize or prohibit certain acts, and for how long the protection should apply;

Whereas the function of a computer program is to communicate and work with other components of a computer system and with users;

Whereas for this purpose, a logical and, where appropriate, physical interconnection and interaction is required to permit all elements of software and hardware to work with other software and hardware and with users in all the ways they are intended to function; whereas the principles describing any such means of interconnection and interaction are generally known as 'an interface'; whereas the specification of interfaces constitutes ideas and principles which underlie the program; whereas those ideas and principles are not copyrightable subject matter;

Whereas the Community is fully committed to the promotion of international standardization;

Whereas protection of computer programs under copyright laws should be without prejudice to the application in appropriate cases of other forms of protection,

HAS ADOPTED THIS DIRECTIVE:

CHAPTER I*Article 1***Object of protection**

1. Member States shall protect computer programs by conferring exclusive rights in accordance with the provisions of this Directive.
2. Exclusive rights shall be conferred by the provisions of copyright laws. Protection shall be accorded to computer programs as literary works.
3. Protection in accordance with this Directive shall apply to the expression in any form of a computer program but shall not extend to the ideas, principles, logic, algorithms or programming languages underlying the program. Where the specification of interfaces constitutes ideas and principles which underlie the program, those ideas and principles are not copyrightable subject matter.
4. (a) A computer program shall not be protected unless it satisfies the same conditions as regards its originality as apply to other literary works.

(b) Programs generated by means of a computer shall be protected in so far as they satisfy the conditions laid down in point (a).

*Article 2***Authorship of program**

1. Subject to the following paragraphs, the author of a computer program is the natural person or group of natural persons who has created the program.
2. In respect of computer programs created by a group of natural persons, the exclusive rights shall be exercised in common unless otherwise provided by contract.
3. Where a computer program is created under a contract, the natural or legal person who commissioned the program shall be entitled to exercise all rights in respect of the program, unless otherwise provided by contract.
4. Where a computer program is created in the course of employment, the employer shall be entitled to exercise all rights in respect of the program, unless otherwise provided by contract.
5. In respect of programs which are generated by the use of a computer program, the natural or legal person who causes the generation of subsequent programs shall be entitled to exercise all rights in respect of the programs, unless otherwise provided by contract.

*Article 3***Beneficiaries of protection**

1. Protection shall be granted to all natural or legal persons eligible under national copyright legislation as applied to literary works.
2. In the case referred to in Article 2 (2) the computer program shall be protected in favour of all authors if at least one author is a beneficiary of protection in accordance with paragraph 1 of this Article.

*Article 4***Restricted acts**

Subject to the provisions of Article 5, the exclusive rights referred to in Article 1 shall include the right to do or to authorize:

- (a) the reproduction of a computer program by any means and in any form, in part or in whole. In so far as they necessitate a reproduction of the program in part or in whole, loading, viewing, running, transmission or storage of the computer program shall be considered restricted acts;

- (b) the adaptation of a computer program;

- (c) the distribution of a computer program by means of sale, licensing, lease, rental and the importation for these purposes. The right to control the distribution of a program shall be exhausted in respect of its sale and its importation following the first marketing of the program by the right holder or with his consent.

*Article 5***Exceptions to the restricted acts**

1. Where a computer program has been sold or made available to the public other than by a written licence agreement signed by both parties, the acts enumerated in Article 4 (a) and (b) shall not require the authorization of the right holder, in so far as they are necessary for the use of the program. Reproduction and adaptation of the program other than for the purposes of its use shall require the authorization of the right holder.
2. Where a computer program has been sold or made available to the public by means other than a written licence agreement signed by both parties, the exclusive right of the right holder to authorize rental shall not be exercised to prevent use of the program by the public in non-profit making public libraries.

*Article 6***Secondary infringement**

1. It shall be an infringement of the author's exclusive rights in the computer program to import, possess or deal with an infringing copy of the program, knowing or having reason to believe it to be an infringing copy of the work.
2. It shall be an infringement of the author's exclusive rights in the computer program to make, import, possess or deal with articles intended specifically to facilitate the removal or circumvention of any technical means which may have been applied to protect a program.

*Article 7***Term of protection**

Protection shall be granted for 50 years from the date of creation.

CHAPTER II

*Article 8***Continued application of other legal provisions**

1. The provisions of this Directive shall be without prejudice to any legal provisions concerning patent rights, trade marks, unfair competition, trade secrets or the law of contract in so far as such provisions do not conflict with the principles laid down in the present Directive.
 2. The provisions of this Directive are applicable also in respect of works created prior to [date in Article 9].
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CHAPTER III

*Article 9***Final provisions**

1. Member States shall bring into force the laws, regulations or administrative provisions needed in order to comply with this Directive by [date].
2. Member States shall ensure that they communicate to the Commission the texts of the provisions of national law which they adopt in the field covered by this Directive.

Article 10

This Directive is addressed to the Member States.

**Commission conclusions decided on the occasion of the adoption of the Commission's proposal
for a Council Directive on the legal protection of computer programs**

In adopting a proposal for a Council Directive on the legal protection of computer programs the Commission approves the following policy guidelines. It affirms its conviction that computer programs, given the intellectual effort and the financial investment which may be necessary for their creation and the ease with which they can be copied, merit adequate legal protection. Following a worldwide trend, the Commission proposes copyright as a suitable legal basis for ensuring a balance between an effective level of protection and the interests of users. Divergencies between the copyright statutes of the Member States as to the availability and scope of the protection have caused the Commission to initiate the harmonization process in view of the objective of completing the internal market.

Software is an industrial tool which is essential to the Community's economic development. The grant of exclusive rights under copyright law will create incentives for software developers to invest their intellectual and financial resources and thereby to promote technical progress in the public interest. Technical progress and public welfare, however, are also ensured by a system of undistorted competition, one of the principal goals of the Treaty. Exclusive proprietary rights and free competition, while in principle designed to achieve the same objective by different means, may conflict where a copyright owner is in a position to exercise his statutory exclusive rights beyond their intended purpose. The exercise of exclusive copyrights will not prejudice the application of the competition rules and the imposition of effective remedies in appropriate cases. Further, the Community commitment to international standardization in the fields of information technology and telecommunications must not be compromised.

The relation between the Community's competition rules and copyright is governed by the European Court's distinction between the existence and the exercise of the intellectual property rights in question. Any arrangement or measure which goes beyond the existence of copyright can be subject to control under the competition rules. This means that for example any attempt to extend by contractual agreements or other arrangements the scope of protection to aspects of the programs for which protection under copyright is not available, or the prohibition of any act which is not reserved for the right owner may constitute an infringement of the competition rules.

Moreover, companies in a dominant position must not abuse that position within the meaning of Article 86 of the Treaty. For example, under certain circumstances the exercise of copyright as to the aspects of a program, which other companies need to use in order to write compatible programs, could amount to such an abuse. This could also be the case if a dominant company tries to use its exclusive rights in one product to gain an unfair advantage in relation to one or more products not covered by these rights.

Furthermore, the ability of a competing manufacturer to write an independent but compatible program often depends on his possibility to have access to the target program or to certain information relating to it. Access to information is not a matter of copyright law. Article 86 always applies where a dominant company abusively refuses access to such information or restricts unreasonably such access.
