COMMISSION OF THE EUROPEAN COMMUNITIES

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Proposal for a

COUNCIL DIRECTIVE

on the legal protection of computer programs

(presented by the Commission)

EXPLANATORY MEMORANDUM

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PART ONE: GENERAL

1.0. 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 insofar 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 However, it is not thought advisable to include a definition in the Directive to avoid it becoming outdated.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 industrialised 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.

2.0. 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.

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.

EXISTING PROTECTION MEASURES

2.9. The following countries have explicitly recognized the protection of computer programs by copyright: Australia, Brazil, Chile, Dominican Republic, France, Germany (Federal Republic of), 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.

HARMONISATION 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 intracommunity 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.

3.0. 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.

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.

CONTRACT

3.3. As regards contract law, this is a valuable form of protection insofar 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 rightholder 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 commercialisation for his product, and for the user to manifest his preference for an outright purchase or a licensing agreement.

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 harmonisation 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 UCC 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 interoperability of hardware and software, and that of availability of information concerning the access protocols and interfaces which ensure such interoperability. 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 interoperability are already governed by the International Standards Organisation'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 insofar 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 interoperative 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 interoperative 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 interoperative 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.

RELATION TO INTERNATIONAL CONVENTIONS.

4.0. 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 insofar 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.

5.0. THE 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 100 A is the appropriate legal basis for the present proposal.

For the completion of the internal market before 31 December 1992, Article 100A paragraph 1, sentence 2 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 paragraph 2 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 insofar as industry in those countries with clear and established protection of computer programs is currently in a morefavourable 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

CHAPTER I

Article 1 — Object of protection

1.1. 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.

1.2. 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.

1.3. 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, insofar 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 insofar 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.

1.4a. 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 above mentioned sense and that the creator demonstrated skill and labour in the creation of the compilation.

1.4b. 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 repect 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 insofar as programs generated by such means fulfill 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

2.1. 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.

2.2. 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.

2.3. Computer programs are frequently created by freelance programmers working on particular projects on behalf of organisations 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.

2.4. In circumstances where a programmer is employed to create programs within a company or organisation, 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