

Copyright Protects The Code Of A Computer Program Not Its Functionality Or The Ideas Underlying The Software

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Attorney Articles

According to the recent decision of the Court of Justice of the European Union (“ECJ”) in SAS Institute Inc. (“SAS Institute”) v World Programming Ltd (“WPL”), the defendant did not infringe the claimant’s copyright by effectively reverse engineering the SAS software and writing a new program closely emulating the functionality of the SAS software. The decision of the ECJ lays down an important statement of principles in relation to the extent to which copyright protects computer programs (but not their functionality) under European Union law, although in respect of some practical aspects of the matter the Court’s decision fails to provide useful guidance.

Background

Although each Member State of the European Union applies its own copyright law, some key aspects of copyright are dictated by European directives that national laws must implement. The ECJ is the ultimate authority on the interpretation of the directives.

The decision of the ECJ in the SAS Institute case follows a reference from the High Court of England & Wales seeking guidance on the interpretation of certain copyright-related provisions in Directive 91/250/EEC (the “**Software Directive**”) and Directive 2001/29/EC (the “**Information Society Directive**”).

The allegations of copyright infringement

SAS Institute owns the copyright in analytical software that it has developed over a period of 35 years (the “SAS System”). The SAS System allows users to carry out a wide range of data processing and analysis tasks, including writing and running their own application programs, known as “Scripts” in order to adapt the SAS System to work with their own data. Those SAS Scripts are written in a unique language developed by SAS Institute which is only recognised by the SAS System (the “**SAS Language**”).

WPL identified a market need for an alternative system on which SAS Scripts could be executed. It developed the “World Programming System” designed to emulate the SAS components as closely as possible in that, with a few minor exceptions, it attempted to ensure that the same inputs would produce the same outputs. This enabled users of the SAS System to run the Scripts which they have developed for use with the SAS System on the World Programming System.

In order to develop the World Programming System, WPL purchased a licence to use the SAS System (including a “Learning Edition”) and studied the functionality of the SAS System and information contained in its user manuals. WPL then wrote a completely different software code which produced the same functionality as the

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SAS System and launched this program as the World Programming System.

SAS Institute claimed that in doing so WPL infringed its copyright in the SAS System itself, as well as its copyright in the SAS Language and in its user manuals.

A distinction between ideas and the expression of ideas

The first question the ECJ addressed was whether under European Union legislation copyright protection extends to the functionality of a computer program, where only the functionality, but not the code itself, are reproduced. The Court answered emphatically that it does not.

The same approach was adopted in previous cases by the English High Court (notably in the *Naviter* case where an air carrier replaced its online booking system with a new system that maintained the 'look and feel' of the original system, but used new code, and the *Nova/Mazooma* games case where a computer game was copied in detail but without copying the code or the graphics). However, it is the first time the ECJ considered the question and the decision lays down an important mandatory rule for the whole of the European Union.

In arriving at that result, the ECJ relied on the distinction between ideas and their expression. It noted that the Software Directive confers copyright protection not only to the program itself but also to the preparatory design work. But protection is only afforded to the expression of that work, not to the ideas underlying it. Protecting the functionality of a program, the Court held, would amount to monopolising the ideas underlying it and would run contrary to legislative intent. The legislature, the Court said, extended copyright protection to computer programs on the basis that copyright protects against a reproduction of the "individual expression of the work, but not the underlying ideas, and that it would not interfere with authors' ability to create similar or even identical programs, as long as they refrain from copying the original code.

Accordingly, the Court established an important EU-wide principle that copyright does not prevent copying the functionality of a computer program, as long as its code is not reproduced.

Parallel lines in U.S. copyright law

The approach of the ECJ in relation to functionality echoes fundamental principles of copyright law applied to computer programs by the U.S. courts. The distinction between ideas and the expression of ideas is enshrined in U.S. copyright legislation in 17 U.S.C. Sec. 102(b) ("In no case does copyright protection for an original work of authorship extend to any idea, procedure, process, system, method of operation, concept, principle, or discovery, regardless of the form in which it is described, explained, illustrated, or embodied in such work"). Based on this provision, the U.S. Court of Appeals for the 1st Circuit famously held in 1995 that copyright was not infringed when Borland (without copying any of code) copied Lotus's menu tree as part of Borland's spreadsheet which competed with the then-popular Lotus 1-2-3, holding that the set of menu commands were a "method of operation" (*Lotus v. Borland*, 49 F.3d 807). Subsequent U.S. appeals decisions (e.g., *Lexmark International v. Static Control Components Inc.*, 387 F.3d 522 (6th Cir. 2004)) further developed the application of the idea/expression dichotomy in relation to software and the approach that elements of software dictated purely by function may not enjoy copyright protection. However, while such cases established that some aspects of computer programs will not be protected in the U.S., for instance structures driven by industry standards, the idea/expression test

remains a difficult one to apply in the context of software. Further, in the U.S., such cases can involve fair use defences (a concept which does not exist in European copyright law which only allows specific exceptions to copyright infringement, as discussed further below).

Computer language and formats

Following the same logic, the ECJ held further that a new program (the WPL) written in the same programming language of another program (the SAS Language) or using the same data file formats as the first program, does not as a result of such use infringe the copyright in the first program, as the language and formats constitute ideas underlying the work, not the expression of those ideas.

However, the Court did not hold that computer language or formats, as such, cannot be protected in copyright. In fact, it stated that they can be, if they are the author's own intellectual creation. It is not quite clear what the Court meant in that statement. It referred in this context to a previous case (C-393/09) in which the ECJ examined whether the graphic user interface of a computer program enjoys protection in copyright. The Court in that case held that the GUI was not protected in copyright as a computer program (under the Software Directive) because it was only an external aspect of the program and not the actual program, but, it added, it may well be protected in copyright as the "author's own intellectual creation", under the Information Society Directive. In that context, the statement could be understood as referring to the protection of the GUI as an artistic work or a literary work, as opposed to a computer program. It is unclear, however, what this could mean in the context of a computer language or a format of a data file.

The upshot seems to be that it is not an infringement of copyright to write a program using a third party's computer language or file formats, although there may be circumstances where the copyright in the computer language or formats could nevertheless be enforced.

The right of a licensee to observe, study and test the functionality of software

The English court also sought guidance from the ECJ on two other aspects of EU legislation relating to the protection of computer programs.

The first of these issues concerned a provision in the Software Directive setting out an exception to copyright protection relating to a licensed user's right to observe, study or test the functioning of the program he is licensed to use in order to determine its underlying ideas and principles.

In the case at hand, the click-through licence agreement by which WPL obtained the right to use the "Learning Edition" of the SAS System contained a restriction relating to production use of the software. The point was that in order to study the SAS System, WPL had to engage in various acts which went beyond the scope of the licence. The English court asked whether the licensee's right to observe, study and test the functionality of the program is restricted to doing those things only in the course of using the program in the manner permitted under the licence.

The ECJ did not give a very clear answer to that question. The Court held, on the one hand, that WPL could not infringe the copyright in the SAS System where it had no access to the source code, but where it merely studied, observed and tested the functionality of the program as a licensed user in order to reproduce that functionality in a different program. It pointed out that the Software Directive does not allow contractual terms to restrict the licensed user's right to observe, study or test the functionality of the program when carrying out licensed acts. (In the United

Kingdom, for example, the Copyright, Designs and Patents Act 1988 provides that a contractual term seeking to restrict that right is unenforceable). However, at the same time the ECJ referred in its decision to the licensed user carrying out acts covered by the licence and the acts of loading and running of the program "which are necessary for using the program". Further, the Court stated that the right to study, observe and test the program is conditional on the licensed user not infringing the exclusive rights of the owner of the copyright in the program.

The decision does not explain to what extent (if any) contractual limitations on the way in which licensed software can be used can in practice limit the user's ability to observe, study and test the functionality of the program. Clearly, the right to do so cannot be restricted directly, however, it may still be possible, using sufficiently careful drafting, to define the permitted usage rights in a software licence sufficiently narrowly so as to limit the opportunities available for the user to engage in reverse engineering of the software whilst exercising its licensed rights. Whether such restrictions would be effective is impossible at this stage to say.

Reproduction of elements of the user manual

Another issue raised in the reference from the English court concerned an argument raised by SAS Institute that WPL infringed the copyright in its user manuals by writing a program that implements the functionalities described in the manual and by writing a user manual that described the same functionalities. The English court sought guidance from the ECJ on the question whether the reproduction of syntax and keywords in the WPL program and in its manual infringed the copyright in the SAS System manual that described the same syntax and keywords.

Again, the ECJ did not provide a clear answer, except to repeat the general principle (already established in its Infopaq decision of 2009) that any part of a copyright work can enjoy protection insofar as it contains the expression of its author's own intellectual creation and the reproduction of that part will infringe the copyright.

The Court remarked that the keywords, syntax, commands, options, defaults and iterations described in the SAS System manual were made of words, figures or mathematical concepts that in themselves were not the author's intellectual creation (and therefore, can be re-used without infringement). However, the choice, sequence and combination of those elements in the user manual can be an expression of the author's creativity. The ECJ left it for the English court to determine whether that expression was reproduced by WPL in its manual or indeed in the WPL software itself, as opposed to only using the component parts of that expression.

It would seem, therefore, that the implementation in a computer program (or its user manual) of syntax and keywords developed by a third party does not amount to an infringement, but if sections of the manual in which these elements were put into some order were substantially reproduced, that reproduction could amount to copyright infringement. The decision, however, does not indicate what degree of copying of syntax and keywords would constitute an infringement. As in the case of computer language and formats, given the technical context, it is difficult to apply the test of the "author's own intellectual expression" and some more direct guidance would have been helpful.

Overall, whilst the Court's decision sets out an important general principle as to the absence of copyright protection for the functionality of computer programs, it provided unsatisfactory answers to some questions relating to the practicalities of

engaging in reverse engineering and writing programs that seek to offer a close alternative to an existing software product. Broad principles would still need to be considered in examining the legitimacy of the practical steps necessary for creating a new program that mimics the functionality of a competitor's product.

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