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Interference with the computer program at runtime: C-159/23 Sony Computer Entertainment Europe

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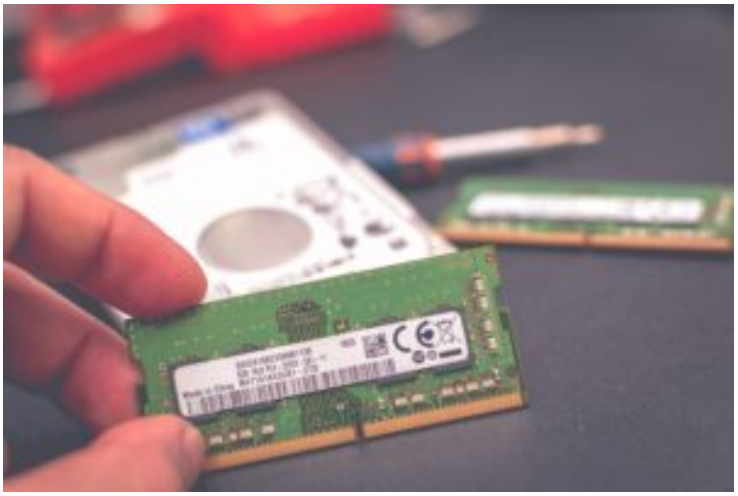

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A loophole in copyright protection?

The 2009 directive on the legal protection of computer programs (the Software Directive) grants copyright protection to all forms of expression of computer programs. Its Article 4(1) mentions three exclusive rights. The first is the reproduction right, which covers not only permanent copies but also temporary copies loaded into the volatile memory of a computer. The second right covers all kinds of alterations of the program and reproductions of such alterations, regardless of whether the changes were in themselves original. The third covers any form of distribution to the public.

The reproduction right was drawn up as a functional equivalent of a right to control the use of a program. It allows the rightholders to control even acts of loading and running of the programs, because each of these almost always requires at least a temporary reproduction in the working memory. The alteration right gives them control over multiple secondary markets because maintenance, including upgrades and error corrections, is often impossible without changing a protected form of expression of the program.

This system may appear impenetrable. However, what if, instead of changing the program's code, we interfere with how it interacts with the computer at runtime? This is the gist of the case C-159/23 Sony Computer Entertainment Europe, which finally reached the Court of Justice of the EU (CJEU) after spending more than a decade before the German courts. It involves a long-discontinued videogame console and games, but the judgment may have a lasting influence on the IT industry in general.

The background and the preliminary questions

The applicant distributed a portable console (PlayStation Portable) and games. The defendants developed and distributed software and add-on devices to the consoles, which allowed the user to use both the console and the games in ways not envisioned by their creators. Among others, they allowed interference with the gameplay (or, one could argue, cheating) by removing certain restrictions or facilitating the challenges. Crucially, the defendants' software never interfered directly with the code of the part of the game protected as a computer program (C-355/12, *Nintendo*). Instead, when the game saved some values in the console's working memory, the software overwrote them with other values. Although the computer would follow the exact instructions written in the code, it would execute them on different data. According to the applicant, this nonetheless amounts to an infringing *alteration* of the program. After diverging decisions of the courts of lower instances, the case reached the German Federal Supreme Court, which referred two questions to the CJEU. They boil down to the following:

1. Is there an interference with the protection afforded to a computer program when changes are made only to the content of variables stored in the computer's working memory?
2. Are such changes alterations within the meaning of the Software Directive, even if the program's code remains unchanged?

To answer these questions, the CJEU will have to revisit another one: what exactly is a form of expression of a computer program? The Software Directive specifically mentions code and, in line with Article 10(1) of the TRIPS Agreement, that includes both the source code and object code (C?393/09, *BSA*). In some circumstances, preparatory design materials are protected under the Software Directive as well. On the other hand, the CJEU held that the functionality of a program, programming languages, formats of data files (C-406/10, *SAS*) and graphical user interfaces (*BSA*) are not protected by copyright in computer programs. None of these examples specifically deals with data loaded into the working memory.

Competing arguments

The Higher Regional Court in Hamburg, which ruled against the applicant before the case reached the Federal Supreme Court, placed data outside the notion of a computer program. Its reasoning can be summarized as follows: during the preparations for the 1991 Software Directive, a program was understood as a set of instructions meant to perform a particular function or task on a computer. These instructions are embodied in various types of code (source, object), which express the original work of the author(s). This concept of a computer program does not include data generated during runtime, so interference with this data is not an alteration covered by the exclusive rights. Moreover, it would be incompatible with the principle that copyright does not cover the mere use of work or the functionality of a program (C?406/10, *SAS*). An alteration covered by Article 4 of the Software Directive is conceptually only possible if the object code, the source code or the inner structure of the program is changed. This approach is consistent with a string of German decisions concerning ad-blocking tools, in which the courts almost universally rejected claims of infringement by interfering with the program's output.

The applicant took the position of what one may call radical technological neutrality. Taking the

same definition of a computer program as a starting point, Sony argued that any parts of the set of instructions contributing to achieving planned results or enabling certain functions should be treated as part of the program, including data. Here, the program's purpose is to deliver dynamic gameplay, with variables stored and modified according to the programmer's plan. And, since the computer programs are protected as literary works, their protection also goes beyond text. When a specific content of these variables was part of the programmer's plan, the mere use of incorrect (i.e., not envisioned by the programmer) content infringes the alteration right.

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Although drawing a clear demarcation line between code and data is tempting, this approach is perilous. For example, values of certain variables and constants are almost always written in the code. The case would probably not be controversial if the defendant's program changed the same values in place, not only during runtime. One might ask: what difference does the moment of modification make? Technical arguments are especially treacherous for software: even when copyright law uses terms developed in computer science, it merely scratches the surface (for example, consider programs that change themselves). The CJEU's recent decision in C-13/20 *Top System* is not very helpful either. According to the court, correcting errors in a program involves modification of its code "in most cases". This cryptic statement begs the question: in what cases does it not?

Instead of trying to dissect the problem from a purely technical standpoint, let us consider the consequences. If the CJEU's answers to both questions are negative, videogame developers will be unable to rely on copyright to fight at least some types of cheat software. However, should the CJEU endorse the applicant's approach, it would have ramifications beyond game development. It would be hardly surprising if software developers relied on the broadened interpretation of the alteration right to tighten their grip on maintenance aftermarkets. For example, their exclusive rights would cover not only code modifications but also changes to the configuration of the programs in ways not envisioned (i.e., permitted). To some degree, the users could rely on Article 5(1) of the Software Directive, but this exception has its limits too (see C?13/20, *Top System*).

In short, any decision other than a negative answer to both questions would drop a bombshell, which seems to explain why the referring court appears hesitant to accept the applicant's arguments.

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