

Copyright, Decompilation of Computer Programs and Competition Law

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Reverse Engineering: what is it?

- “A fair and honest means of starting with a known product and working backwards to divine the process which aided its development or manufacture”.

US Supreme Court in *Kewanee Oil Co. v. Bicron Corp.*, U.S. 470, 476 (1974)

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Reverse Engineering: we have been using it for quite some time

- Reverse engineering has always had a significant role in assisting human industrial development.
- Throughout the history of mankind, people have continually disassembled nature-made and human-made artefacts in order to understand the ideas and concepts that underlie them.
- As far as legal constraints are concerned, aside from one notable exception, there have hardly been any directly applicable restrictions on the exercise of the practice of reverse engineering, either under copyright law, patent law or under trade secrets law.
- Computer programs are the abovementioned exception.

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Reverse engineering computer programs: what for?

- A person may wish to engage in the practice of reverse engineering of computer programs for two main reasons:
 - (1) understanding the internal working of computer programs;
 - (2) understanding performance failures of computer programs.

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Understanding the internal working of a computer program

- Understanding the internal working of a computer program may have three primary objectives:
 - (1) to produce a functional equivalent or a better program (i.e. competition);
 - (2) to produce a program that operates with the studied program (i.e. compatibility or interoperability);
 - (3) to analyse solutions adopted by the studied program for educative purposes.

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Understanding performance failures

- Understanding performance failures of a computer program is done for diagnostic purposes whereby the programmer attempts to understand why is it that a program fails to perform.

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So is it permitted?

- The ability to 'pick' into a program's internal organs serves objectives which stand in the heart of the wellbeing of the software industry.
- But what practical methods are open to a programmer to employ while trying to understand the internal working of a computer program?
 - (1) reading the program documentation;
 - (2) observing the program in operation;
 - (3) Disassembly and decompilation
- In order to access some of the ideas that underlie a computer program, it is only decompilation that is effective (and even that not to a full extent).

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What is 'decompilation' and where is the problem?

- It is a species of reverse engineering that involves translating the object code into human – readable form, or 'pseudo source code', largely through trial and error.
- It differs from traditional mechanical reverse engineering in that it involves potential infringement of copyright at two different levels: the creation of intermediary copies of the original program and, also, the additive contribution of the reverse engineer, in combination with the original bits of the program, which may constitute a derivative work.

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The Software Directive

In EU, computer programs protected as literary work

- Program includes programs in any form (including those on hardware (e.g., ROM), source code, object code) as well as preparatory design material
- To be protected, it must be "original" in that it must be the work of the "author's own intellectual creation." (Not implemented into UK statute)
- Author is natural person/person who created it or a legal person where MS's law designates
 - Where employee created, employer entitled to economic rights

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Software Directive II

Restricted acts include:

- Permanent or temporary reproductions by any means and in any form, in whole or part (loading, displaying, running, transmission or storage of the program require authorization)
- Translation, adaptation, arrangement and any other alteration and the reproduction of these
- Any distribution to the public, including rental, of the original program or copies of it



Art.5(3): observe, study or test

“The person having a right to use a copy of a computer program shall be entitled, without the authorization of the rightholder, to observe, study or test the functioning of the program in order to determine the ideas and principles which underlie any element of the program if he does so while performing any of the acts of loading, displaying, running, transmitting or storing the program which he is entitled to do.”

- **NOTE Art.9:** any contract to the contrary is null and void



Art 6: Decompilation

Authorization of owner not necessary where:

- Indispensable to obtain information essential to interoperability of:
 - Independently created program
 - By licensee or another with right to use program
 - Limited to parts of program to achieve interoperability
 - Information not otherwise made readily available
- And not



Art 6: Decompilation (cont')

- Used for goals other than to achieve the interoperability of the independently created computer program;
- Given to others, except when necessary for the interoperability of the independently created computer program;
- Used for the development, production or marketing of a computer program substantially similar in its expression, or for any other act which infringes copyright.
- **NOTE Art.9:** any contract to the contrary is null and void



Access to public domain

- Art. 1(2), Software Directive: *Protection in accordance with this Directive shall apply to the expression in any form of a computer program. Ideas and principles which underlie any element of a computer program, including those which underlie its interfaces, are not protected by copyright under this Directive.*
- Recital 11, Software Directive:
For the avoidance of doubt, it has to be made clear that only the expression of a computer program is protected and that ideas and principles which underlie any element of a program, including those which underlie its interfaces, are not protected by copyright under this Directive. In accordance with this principle of copyright, to the extent that logic, algorithms and programming languages comprise ideas and principles, those ideas and principles are not protected under this Directive. In accordance with the legislation and case-law of the Member States and the international copyright conventions, the expression of those ideas and principles is to be protected by copyright.



An oxymoron?

- Ideas and concepts are defined as 'public domain' and therefore not a proper subject matter for copyright protection.
- On the other hand, the only effective way to gain access to some of these ideas is heavily regulated.



And Competition Law?

- We have seen that the Software Directive allows decompilation where it is practiced in order to achieve interoperability.
- This is a mandatory provision that may not be circumvented through the use of contractual provisions.
- But can a **positive** obligation be imposed on IPR holder to disclose interoperability data?

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The Microsoft decision

Case T-201/04,

- Landmark decision regarding the application of Article 82 to exclusionary behaviour of IPR holders due to exercise of IPR
- The case was concerned, inter alia, with Microsoft's refusal to provide to its competitors its IPR protected interface specification for Windows work group servers operating systems so they may achieve interoperability with Microsoft's desktop Windows operating systems.
- Microsoft argued that it need not have to provide the requested information as information sufficient to achieve a satisfactory level of interoperability could be obtain by using alternative methods (e.g. reverse engineering).
- In this context the court ruled that on the facts of the case information obtained through such alternative methods did not permit the level of interoperability required by customers [to be achieved] in an economically viable manner.

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The Microsoft Decision: should be taken in context

- The judgment focused on the exceptional specific factual findings made by the Commission.
- This factual focus means that the broader practical legal significance of the judgment is limited.
- Some points to remember regarding the applicability of MS:
 - The IPR holder must have a dominant position in the relevant market, and
 - IMS three cumulative conditions are fulfilled; or,
 - Whether one of the 'special cases' applies

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Presentation Concludes

Thank you for your time

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