GETTING SMART ON INTELLECTUAL PROPERTY: Understanding The Software Protection Regulatory System

Matěj Myška

Overview

- The basic features of the EU software protection regulations
- What is and is not actually protected
- What limits are present in different legal systems
- How the Court of Justice of the European Union (CJEU) treats computer programs, and how that compares to other courts around the world

Historical development

- 1960s – software as accessory
- 1969 – Unbundling – IBM 360-series
- 1970s and 1980s – the Great Debate USA – Commission on New Technological Uses of Copyrighted Works (CONTU)
  - Contract clauses
  - Trade secret
  - Patent Law
  - Copyright Law

Historical development

- 1991 – EU Software Directive
- 1996 – WIPO World Copyright Treaty
- 2002 – Proposal for Directive on the protection by patents of computer-implemented inventions - FAIL
- 2009 - Recodification

IP Basics

Copyright Law

- Idea-Expression dichotomy
- Sufficient level of creativity or originality (!)
- Original works of authorship
- 70y p.m.a.

Patent Law

- Definded by claims
- New, innovative and industrially applicable inventions
- 20y since filing

Legal framework

- International:
  - Berne Convention
  - The Agreement on Trade-related Aspects of Intellectual Property Rights ("TRIPS")
    - Article 10 – *Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention.*
- WIPO Copyright Treaty (A4)
  - *…are protected as literary works within the meaning of Article 2 of the Berne Convention. Such protection applies to computer programs, whatever may be the mode or form of their expression.*
- Directive on the legal protection of computer programs ("SD") 2009/24/EC

Copyright protection for Software

Opinion of the GA in case C-13/20 Top Systems (intracitations omitted)

- *1. „Although it is accepted, both under EU law and in international law, that computer programs are protected by copyright as literary works, they do however differ from such works in several respects. Their specific nature, as protected subject matter, is reflected in the mechanisms of such protection which differ from the general rules of copyright to such an extent that some authors refer to a* ***de facto system of protection sui generis****.“*

Opinion of the GA in case C-13/20 Top Systems

- *2. „First of all, not only do computer programs have a utilitarian purpose, but that utility is very special: to make computers work. Such a program consists of a **series of instructions** which, when executed by a computer, enable that computer to perform certain tasks. It follows that, unlike any other category of subject matter protected by copyright, computer programs **are not intended to be used by means of human perception**.“*

Opinion of the GA in case C-13/20 Top Systems

- *3. „…as a rule, it is not the user but rather the computer which ‘understands’ the program and executes it. The **value** for the user therefore lies not in the computer program per se, but rather **in the functions** which that program enables the computer to perform. This **puts computer programs more on a par with inventions** protected by **patent** rather than ‘traditional’ works protected by copyright.“*
- *4. “That first feature of computer programs leads on to the **second**: their **mode of expression**. Although a computer program is intended to be perceived not by people but by the machine, it must be expressed in a way which that machine can understand. That mode of expression is binary code, ‘text’ consisting of just two symbols, which are usually represented as 0 and 1, but that representation is still a convention for human use. The computer’s processor ‘reads’ those symbols as different values of electrical voltage.“*

Opinion of the GA in case C-13/20 Top Systems

- *„5. Although programs for so-called ‘first-generation’ computers were often coded directly in binary form, modern programs are much too complex to be created, or even read, in that form. There are therefore programming languages, referred to as ‘**high-level languages**’, which contain the different instructions for the computers, coded in the form of expressions close to natural language and, therefore, discernible by people and understandable to those who know those languages. A computer program created in such a programming language constitutes its ‘**source code**’. That source code is then ‘**compiled**’, using dedicated software referred to as a ‘**compiler**’, into an ‘**object code**’ or a ‘**machine code**’, that is to say into the form understandable to and executable by a computer.“*

Opinion of the GA in case C-13/20 Top Systems

- *6. „The fact remains that, in practice, computer programs are usually communicated to users only in the form of the object code. This means that those programs can be used by executing them on a computer, but does not allow their content to be known, which is unusual for a work protected by copyright. The question of whether and, potentially, to what extent the user of a computer program is entitled to translate the object code of that program into source code (this process is known as '**decompilation**') in order to learn its content lies precisely at the heart of this case."*

Opinion of the GA in case C-13/20 Top Systems

- *„7. That question leads me to the **third feature** of computer programs as subject matter protected by copyright: the relationship between that protection and the traditional principle of copyright that **copyright protects not ideas but only their expression**. That principle reflects the very purpose of copyright, which is to contribute not only to creation, by protecting the creative work of authors, but also to the dissemination and the access to ideas, by preventing their monopolisation, such that those ideas can be the source of further creations. However, the fact that the expression of computer programs, as they are normally disclosed, is imperceptible to people means that the ideas underlying those programs can be concealed, thus affording their authors protection which exceeds that which is justified by the objectives of copyright. Thus, computer programs are the only category of protected works in respect of which access to the underlying ideas, by mere sensory analysis not involving acts subject to the author's exclusive rights, is impossible.“*

Software Directive 2009/24 („SD“)

- Overview
  - **A1 Object of protection**
  - A2 Authorship
  - A3 Beneficiaries of protection
  - A4 Restricted acts
  - A5 Exceptions
  - A6 Decompilation
  - A7 Special measures of protection
  - Term of protection

SD A1

- (1)
  - *In accordance with the provisions of this Directive, Member States shall protect computer programs, by copyright, as **literary works** within the meaning of the Berne Convention for the Protection of Literary and Artistic Works.*
  - *For the purposes of this Directive, the term "computer programs" shall include their **preparatory design material**.*

SD A1

- (2)
  - *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.*

SD A1

- (3)
  - *A computer program shall be protected if it is original in the sense that it is the author's own intellectual creation.*
  - ***No other criteria shall be applied*** *to determine its eligibility for protection.*

Originality

- Eligibility criterion for copyright protection
  - the author's own intellectual creation – creative choices of the author
  - Recital 8 SD: *„no tests as to the qualitative or aesthetic merits of the program should be applied“*
- Other criteria (not applicable)
  - skill, labour, and judgment doctrine (UK)
  - sweat of the brow (US)
  - author's mark (France)
  - kleine Münze (Germany)

C-406/10, SAS v WPL

- [39] *„Neither the functionality of a computer program nor the programming language and the format of data files used in a computer program … constitute a form of expression of that program*
- *and*
- *as such, <u>are not protected</u> by copyright“.*

C-393/09, BSA v Ministerstvo kultury

- [38] *„any form of expression of a computer program must be protected from the moment when its reproduction would engender the reproduction of the computer program itself*
- [40] *graphic user interface is an interaction interface which enables communication between the computer program and the user*
- [42] *does not constitute a form of expression of a computer program*
- [42] *cannot be protected specifically by copyright in computer programs by virtue of that directive“*

C-393/09, BSA v Ministerstvo kultury

- [46] *„graphic user interface can, as a work, be protected by copyright if it is its author's own intellectual creation.“*
- [44] *„graphic user interface of a computer program can be protected by the ordinary law of copyright“*
- [49] *„where the expression of those components is dictated by their technical function, the criterion of originality is not met, since the different methods of implementing an idea are so limited that the idea and the expression become indissociable“*

Video games:
C-355/12, Nintendo and others

- Videogames not only computer programs, but complex multimedia works, including:
  - graphical and sound elements
  - technical elements;
- Protected as works InfoSocD

„Preparatory design materials“

- „Preparatory design materials“ not sufficiently defined
  - Recital 7: *„preparatory design work leading to the development of a computer program provided that the nature of the preparatory work is such that a computer program can result from it at a later stage“*
- Explanatory memorandum: flow charts or descriptions of sequences of steps in plain language
- User manuals: literary works
- C-393/09, BSA, para. 37: „…*work capable of leading, respectively, to the reproduction or the subsequent creation of such a program.“*

Dacom C-313/18

- Preliminary question – WITHDRAWN☹

„(2) Must material, in order to constitute preparatory design material within the meaning of the directive, be so complete and detailed that in practice it requires no independent choices on the part of the person who actually writes the code of a computer program?“

What is protected?

YES

- Expression of a computer program
- Binary Code
- Source code
- Preparatory underlying materials

NO

- Ideas
- Principles
- Logic
- Algorithms
- Programming languages
- Data formats
- GUI

SD

- Overview
  - A1 Object of protection
  - **A2 Authorship**
  - **A3 Beneficiaries of protection**
  - A4 Restricted acts
  - A5 Exceptions
  - A6 Decompilation
  - A7 Special measures of protection
  - Term of protection

SD A2,3

- Authorship
  1. natural person, group of natural persons, legal person designated as the rightholder, collective works
  2. group of natural persons jointly
  3. employee – employer

SD

- Overview
  - A1 Object of protection
  - A2 Authorship
  - A3 Beneficiaries of protection
  - **A4 Restricted acts**
  - A5 Exceptions
  - A6 Decompilation
  - A7 Special measures of protection
  - Term of protection

SD

- Overview
  - A1 Object of protection
  - A2 Authorship
  - A3 Beneficiaries of protection
  - A4 Restricted acts
  - **A5 Exceptions**
  - A6 Decompilation
  - A7 Special measures of protection
  - Term of protection

EUSD Art 4

- (1) Exclusive acts (rights)
  - Reproduction (a)
  - Integrity (b)
  - Distribution (c)
- (2) Exhaustion of certain rights
  - UsedSoft C-128/11 – computer programmes
  - ! „standard“ literary works – NO exhaustion – Tom Kabinet C-263/18

UsedSoft C-128/11

- *Article 4(2) of Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs must be interpreted as meaning that the right of distribution of a copy of a computer program is exhausted if the copyright holder who has authorised, even free of charge, the downloading of that copy from the internet onto a data carrier has also conferred, in return for payment of a fee intended to enable him to obtain a remuneration corresponding to the economic value of the copy of the work of which he is the proprietor, a right to use that copy for an unlimited period.*

UsedSoft C-128/11

- *Articles 4(2) and 5(1) of Directive 2009/24 must be interpreted as meaning that, in the event of the resale of a user licence entailing the resale of a copy of a computer program downloaded from the copyright holder's website, that licence having originally been granted by that rightholder to the first acquirer for an unlimited period in return for payment of a fee intended to enable the rightholder to obtain a remuneration corresponding to the economic value of that copy of his work, the second acquirer of the licence, as well as any subsequent acquirer of it, will be able to rely on the exhaustion of the distribution right under Article 4(2) of that directive, and hence be regarded as lawful acquirers of a copy of a computer program within the meaning of Article 5(1) of that directive and benefit from the right of reproduction provided for in that provision.*

C-166/55 Ranks & Vasiļevičs

BUT NOT non-original copies on tangible media

Article 4(a) and (c) and Article 5(1) and (2) of Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs must be interpreted as meaning that, although the initial acquirer of a copy of a computer program accompanied by an unlimited user licence is entitled to resell that copy and his licence to a new acquirer, he may not, however, in the case where the original material medium of the copy that was initially delivered to him has been damaged, destroyed or lost, provide his back-up copy of that program to that new acquirer without the authorisation of the rightholder.

SD A5 (1)

- Intended use
  - *In the absence of specific contractual provisions…(reproduction+alternation)…*

    *shall not require authorisation by the rightholder where they are necessary for the use of the computer program by the **lawful acquirer** in accordance with its **intended purpose**, including for error correction.*

C-13/20 Top System

- *„…lawful purchaser of a computer program is entitled to decompile all or part of that program in order to correct errors affecting its operation, including where the correction consists in disabling a function that is affecting the proper operation of the application of which that program forms a part.“*

C-13/20 Top System

- *„…lawful purchaser of a computer program who wishes to decompile that program in order to correct errors affecting the operation thereof is not required to satisfy the requirements laid down in Article 6 of that directive. However, that purchaser is entitled to carry out such a decompilation only to the extent necessary to effect that correction and in compliance, where appropriate, with the conditions laid down in the contract with the holder of the copyright in that program.“*

SD A5 (2)

- Back-up copies
  - *The making of a back-up copy by a **person having a right to use the computer program** may not be prevented by contract in so far as it is necessary for that use.*

X

- ISD A5 (2)(b)
  - *made by a natural person for private use*

SD A5(3)

- *The **person having a right to use a copy of a computer program** shall be entitled, without the authorisation 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**.*

SD

- Overview
  - A1 Object of protection
  - A2 Authorship
  - A3 Beneficiaries of protection
  - A4 Restricted acts
  - A5 Exceptions
  - **A6 Decompilation**
  - A7 Special measures of protection
  - Term of protection

SD A6

- Decompilation
  - Interoperability
  - Only:
    - Independent program
    - Person having a right to use a copy of a program
    - No necessary information available
  - Gained result
    - Any other purpose
    - Three-step test
      - in a manner which unreasonably prejudices the rightholder's legitimate interests or conflicts with a normal exploitation of the computer program

SD

- Overview
  - A1 Object of protection
  - A2 Authorship
  - A3 Beneficiaries of protection
  - A4 Restricted acts
  - A5 Exceptions
  - A6 Decompilation
  - **A7 Special measures of protection**
  - Term of protection

SD A7

- Special measures of protection
  - Infringing copies
  - Technical protection measures (measures)
    - Act of circumvention not illegal
    - Any act of putting into circulation, or the possession for **commercial purposes** of, any means the **sole intended** purpose of which is to facilitate the unauthorised removal or circumvention of any technical device which may have been applied to protect a computer program.

SD

- Overview
  - A1 Object of protection
  - A2 Authorship
  - A3 Beneficiaries of protection
  - A4 Restricted acts
  - A5 Exceptions
  - A6 Decompilation
  - A7 Special measures of protection
  - **Term of protection**

Term of protection

- WAS 50y
- Council Directive **93/98/EEC** harmonising the term of protection of copyright and certain related rights
- NOW **70y** p.m.a.
- Justification X life-span
- New versions? – derivative works

Thank you for your attention!

@matejmyska

BONUS
Software patents in EUROPE

European Patent Convention

- A52
- The following in particular shall not be regarded as patentable inventions:
  - *(c) schemes, rules and methods for performing mental acts, playing games or doing business, and **programs for computers**;*

SP = Computer-Implemented Inventions

Patented, if:

- They have **technical character** and **solve a technical problem**.
- They are **new**.
- They involve an **inventive technical contribution** to the prior art.

Testing…

- Technical character
  - Patentability of the subject as such
- Technical contribution
  - Comparison with the state of the art
    - Novelty/Inventive step

No business methods patents

- Pure business methods as such are not patentable (Article 52 (2) (c) and (3) EPC, e. g. T 931/95 "PBS").
- An auction method carried out by means of the Internet
  - Denied - no technical contribution to the prior art (T 258/03 "Hitachi") => technical implementation of the improved auction rules was done by the conventional means of a computer and a computer network

IDE as CII?

- Renner, Peter (Applicant), Technical Board of Appeal 3.5.06, 18. 7. 2013, Case No. T 1539/09
- NEIN ZUM PATENTSCHUTZ!
- The action of programming – that is to say, formulating programme code – is a mental process, at least to the extent that it does not serve in a causal way the realisation of a technical effect within the framework of a concrete application or environment. Therefore, the definition and provision of a programming language *per se* does not contribute to the solution of a technical problem, even if the choice of the means of expression related to the programming language serves to reduce the mental effort of the programmer.

To sum up…

- „Further technical effect“
  - Not the „inevitable psychical effect” – i.e. running of the program (current changes)
  - „*what is achieved beyond this normal technical effect*“
- EP0771280 – „ABS“ patent
  - METHOD AND SYSTEM FOR DETECTING THE PROPER FUNCTIONING OF AN ABS CONTROL UNIT UTILIZING DUAL PROGRAMMED MICROPROCESSORS

Technical effect

further technical effect	no further technical effect
control of a brake in a car	aesthetical effects of music or a video
faster communication between mobile phones	new rules for an auction scheme
secure data transmission (encryption of data)	selling and booking sailing cruise packages
resource allocation in an operating system	calculation of a pension contributions

As defined in: MACHEK, Jörg. Computer Implemented Inventions at the EPO
Available at: http://www.pks.rs/SADRZAJ/Files/Biro%20za%20saradnju%20sa%20EU/Inovacije%20u%20kompjuterskoj%20tehnici%20u%20EPZ.pdf