Software law

Outline

- Nature of SW
- History of SW protection
- Copyright protection
- Patent protection
- F/OSS

Nature of SW

- Definition of SW
- IEEE Standards

  “computer programs, procedures and possibly associated documentation and data pertaining to the operation of computer system”
- Difference between SW and CP

Software basics

- Object code x source code
- Programming languages
- Data flows
- Algorithm
- General user interface
- https://www.youtube.com/watch?v=bWdeGTJxMQc&t=44s

SW design

- Assembly language/programming language
- High-level programming language (object-oriented, visual, procedural, general purpose, etc.)
- CASE (Computer-aided software engineering) tools
- Software engineering

History of SW protection

- Development of SW in USA 1960 – 1970
- Unbundling of SW (IBM); general computer
- Trade secret, contractual protection, USA Copyright Office practice
- 1978 USA – CONTU (National Commission on New Technological Uses of Copyrighted Works) Report
- USA Copyright Act 1980
- Nowadays possibility of protection by non-disclosure agreements, know-how

History of SW protection

- International level
  - WIPO (1985)
  - WIPO Copyright Treaty (article 4)

  "Computer programs 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."
  - TRIPS (article 10)

  "Computer programs, whether in source or object code, shall be protected as literary works under the Berne Convention (1971)."

History of SW protection

- Europe
  - European Patent Convention 1973 (Article 52) (not EU law)
  - Directive 91/250/ECC on the legal protection of computer program (not in force)
  - Proposed Directive on the patentability of computer-implemented inventions (2002) (never adopted)
  - Directive 2009/24/EC on the legal protection of computer programs (applicable EU law)

Copyright v Patent protection

- Idea/expression dichotomy
- Works (originality x creativity)
- Author
- Protection ex lege
- 70 years after the death of author

- Inventions
- New, inventive step and industrial application
- Patent applications/patent procedure
- 20 years

Copyright protection

- Directive 2009/24/EC on the legal protection of computer programs
- Object of protection (art. 1)
- computer programs as literary works
- the term ‘computer programs’ shall include their preparatory design material
- protection shall apply to the expression in any form of a computer program
- A computer program shall be protected if it is original in the sense that it is the author's own intellectual creation
- the ideas and principles which underlie any element of a computer program, including those which underlie its interfaces, are not protected by copyright under that directive -> idea/expression dichotomy

Authorship of SW

- Article 2
- natural person
- group of natural persons (jointly)
- where the legislation of the Member State permits, the legal person designated as the rightholder by that legislation
- Collective works in Member State legislation
- SW created by employee
- Beneficiaries:all natural or legal persons eligible under national copyright legislation as applied to literary works

Scope of the protection I (Art. 4)

- Restricted acts
- the exclusive rights of the rightholder within the meaning of Article 2 shall include the right to do or to authorise:
- a) the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole; in so far as loading, displaying, running, transmission or storage of the computer program necessitate such reproduction, such acts shall be subject to authorisation by the rightholder;

Scope of the protection II (Art. 4)

- exclusive rights of the rightholder within the meaning of Article 2 shall include the right to do or to authorise:
- b) the translation, adaptation, arrangement and any other alteration of a computer program and the reproduction of the results thereof, without prejudice to the rights of the person who alters the program;
- c) any form of distribution to the public, including the rental, of the original computer program or of copies thereof.

Exhaustion of right (Art. 4)

- 2) The first sale in the Community of a copy of a program by the rightholder or with his consent shall exhaust the distribution right within the Community of that copy, with the exception of the right to control further rental of the program or a copy thereof.

Exceptions to Article 4

- acts referred to in points (a) and (b) of Article 4(1) 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.
- 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.
- 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.

Decompilation I (Art. 6)

- The authorisation of the rightholder shall not be required where reproduction of the code and translation of its form are indispensable to obtain the information necessary **to achieve the interoperability** of an independently created computer program with other programs, if:
- performed by the licensee or by another person having a right to use a copy of a program, or on their behalf by a person authorised to do so, -> ***lawful user***
- the information necessary to achieve interoperability has not previously been readily available, -> ***e.g. information is not included in manual***
- those acts are confined to the parts of the original program which are necessary in order to achieve interoperability. -> ***limited scope***

Decompilation II (Art. 6)

- The provisions of paragraph 1 shall not permit **the information** obtained through its application:
- to be used for goals other than to achieve the interoperability of the independently created computer program;
- to be given to others, except when necessary for the interoperability of the independently created computer program; or
- to be used for the development, production or marketing of a computer program substantially similar in its expression, or for any other act which infringes copyright.

Decompilation III (Art. 6)

- In accordance with the provisions of the Berne Convention for the protection of Literary and Artistic Works, the provisions of this Article may not be interpreted in such a way as to allow its application to be used in a manner which unreasonably prejudices the rightholder's legitimate interests or conflicts with a normal exploitation of the computer program
- Berne Convention - three step test

Special measures of protection (Art. 7)

- Member States shall provide appropriate remedies against a person committing any of the following acts:
- any act of putting into circulation a copy of a computer program knowing, or having reason to believe, that it is an infringing copy;
- the possession, for commercial purposes, of a copy of a computer program knowing, or having reason to believe, that it is an infringing copy;
- 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. - TPM (technical protection measures)
- Member States may provide for the seizure of any means referred to in point (c) of paragraph 1.

Article 8

- The provisions of this Directive shall be without prejudice to any other legal provisions such as those concerning patent rights, trade-marks, unfair competition, trade secrets, protection of semi-conductor products or the law of contract.
- Any contractual provisions contrary to Article 6 (*decompilation*) or to the exceptions provided for in Article 5(2) and (3) shall be null and void.

Case law

- C-393/09 Bezpečnostní softwarová asociace - Svaz softwarové ochrany v. Ministerstvo kultury
- C-406/10 SAS Institute Inc. v. World Programming Ltd
- C-128/11 UsedSoft GmbH v. Oracle International Corp.
- Case C-166/15 Criminal proceedings against: Aleksandrs Ranks, Jurijs Vasiļevičs
- Case C-313/18 Dacom Limited v IPM Informed Portfolio Management AB

C-393/09 BSA v. Ministerstvo kultury

- Case in relation to collective management organisation
- Preliminary question: whether the graphic user interface of a computer program is a form of expression of that program within the meaning of Article 1(2) of Directive 91/250 and is thus protected by copyright as a computer program under that Directive. (22)
- The graphic user interface is an interaction interface which enables communication between the computer program and the user. (40)
- The graphic user interface does not enable the reproduction of that computer program, but merely constitutes one element of that program by means of which users make use of the features of that program.

C-393/09 BSA v. Ministerstvo kultury

- That interface does not constitute a form of expression of a computer program within the meaning of Article 1(2) of Directive 91/250 and that, consequently, it cannot be protected specifically by copyright in computer programs by virtue of that directive. (42)
- It is appropriate to ascertain whether the graphic user interface of a computer program can be protected by the ordinary law of copyright by virtue of Directive 2001/29. (44) -> ***eg. audiovisual work***
- The Court has held that copyright within the meaning of Directive 2001/29 is liable to apply only in relation to a subject-matter which is original in the sense that it is its author's own intellectual creation. (45)
- The graphic user interface can, as a work, be protected by copyright if it is its author's own intellectual creation. (46)

C-406/10 SAS Institute Inc. v. World Programming Ltd

- Infringement case, High Court of Justice of England and Wales, 9 preliminary questions
- SAS Institute is a developer of analytical software. It has developed an integrated set of computer programs over a period of 35 years which enables users to carry out a wide range of data processing and analysis tasks, in particular, statistical analysis ('the SAS System'). The core component of the SAS System, called 'Base SAS', enables users to write and run their own application programs in order to adapt the SAS System to work with their data (Scripts). Such Scripts are written in a language which is peculiar to the SAS System ('the SAS Language'). (23)

C-406/10 SAS Institute Inc. v. World Programming Ltd

- SAS claims:
- WPL copied the manuals for the SAS System published by SAS Institute when creating the ‘World Programming System’, thereby infringing SAS Institute’s copyright in those manuals;
- in so doing, indirectly copied the computer programs comprising the SAS components, thereby infringing its copyright in those components;
- WPL used a version of the SAS system known as the ‘Learning Edition’, in breach of the terms of the licence relating to that version and of the commitments made under that licence, and in breach of SAS Institute’s copyright in that version; and
- WPL infringed the copyright in the manuals for the SAS System by creating its own manual. (27)

C-406/10 SAS Institute Inc. v. World Programming Ltd

- whether Article 1(2) of Directive must be interpreted as meaning that the functionality of a computer program and the programming language and the format of data files used in a computer program in order to exploit certain of its functions constitute a form of expression of that program and may, as such, be protected by copyright in computer programs for the purposes of that directive. (29)
- WPL did not have access to the source code of SAS Institute's program and did not carry out any decompilation of the object code of that program. By means of observing, studying and testing the behaviour of SAS Institute's program, WPL reproduced the functionality of that program by using the same programming language and the same format of data files.
- Reference to AG: the functionality of a computer program can be protected by copyright would amount to making it possible to monopolise ideas, to the detriment of technological progress and industrial development. (57 AG)

C-406/10 SAS Institute Inc. v. World Programming Ltd

- that neither the functionality of a computer program nor the programming language and the format of data files used in a computer program in order to exploit certain of its functions constitute a form of expression of that program and, as such, are not protected by copyright in computer programs for the purposes of that directive. (46)

C-406/10 SAS Institute Inc. v. World Programming Ltd

- License contract provisions (restrictive)
- The owner of the copyright in a computer program may not prevent, by relying on the licensing agreement, the person who has obtained that licence from determining the ideas and principles which underlie all the elements of that program in the case where that person carries out acts which that licence permits him to perform and the acts of loading and running necessary for the use of the computer program, and on condition that that person does not infringe the exclusive rights of the owner in that program. (62)

C-406/10 SAS Institute Inc. v. World Programming Ltd

- User manual
- That Article 2(a) of Directive 2001/29 must be interpreted as meaning that the reproduction, in a computer program or a user manual for that program, of certain elements described in the user manual for another computer program protected by copyright is capable of constituting an infringement of the copyright in the latter manual if — this being a matter for the national court to ascertain — that reproduction constitutes the expression of the intellectual creation of the author of the user manual for the computer program protected by copyright. (70)

UsedSoft GmbH v. Oracle International Corp.

- Oracle distributes the software at issue in the main proceedings in 85% of cases by downloading from the internet. The software is what is known as ‘client-server-software’. The user right for such a program, which is granted by a licence agreement, includes the right to store a copy of the program permanently on a server and to allow a certain number of users to access it by downloading it to the main memory of their work-station computers. (21)
- In October 2005 UsedSoft promoted an ‘Oracle Special Offer’ in which it offered for sale ‘already used’ licences for the Oracle programs at issue in the main proceedings.(25)
- Customers of UsedSoft who are not yet in possession of the Oracle software in question download a copy of the program directly from Oracle’s website, after acquiring such a used licence. Customers who already have that software and then purchase further licences for additional users are induced by UsedSoft to copy the program to the work stations of those users. (26)

UsedSoft GmbH v. Oracle International Corp.

- whether and under what conditions the downloading from the internet of a copy of a computer program, authorised by the copyright holder, can give rise to exhaustion of the right of distribution of that copy in the European Union within the meaning of Article 4(2) of Directive 2009/24. (35)
- Article 4(2) of Directive 2009/24 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. (72)

UsedSoft GmbH v. Oracle International Corp.

- 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. (88)

Case C-313/18 Dacom Limited v IPM Informed Portfolio Management AB

- Preliminary ruling – not decided yet
- What criteria are to determine whether material constitutes such preparatory design material as is referred to in Article 1(1) of Directive 2009/24/EC (1) of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs? Can documents which set out the requirements as to the functions which are to be performed by a computer program and the result which the computer program must achieve, for example detailed descriptions of investment principles or risk models for asset management including mathematical formulae to be applied in the computer program, constitute such preparatory design material?
- 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?

Case C-313/18 Dacom Limited v IPM Informed Portfolio Management AB

- Does the exclusive right to preparatory design material within the meaning of the directive mean that the computer program in which the preparatory design material subsequently results is to be regarded as an adaptation of the preparatory design material and therefore a dependent work for the purpose of copyright (Article 4(1)(b) of Directive 2009/24/EC), or that the preparatory design material and software are to be regarded as different forms of expression of the same work, or that they are two independent works?
- Can a consultant employed by another company, but who has been working for a number of years for the same client and, in the execution of his duties or following the instructions given by the client, has created a computer program, be deemed to be an employee [of the client company] for the purpose of Article 2(3) of Directive 2009/24/EC?
- On the basis of which criteria should it be assessed whether someone is an employee for the purposes of that provision?

Case C-313/18 Dacom Limited v IPM Informed Portfolio Management AB

- Does Article 11 of Directive 2004/48/EC of the European Parliament and of the Council of 29 April 2004 on the enforcement of intellectual property rights (2) mean that there must be a possibility of obtaining an injunction, even in a situation where the claimant holds the intellectual property right at issue jointly with the party against whom that injunction is directed?
- If the answer to question 3.1 is in the affirmative, does that lead to any other conclusion if the exclusive right concerns a computer program and that computer program is not disseminated or made available to the public, but used only in a joint owner's own business?

Patent protection

- System of EPC
- European Patent Office
- Monopoly right x patent trolls
- Art. 52 (1) : The following in particular shall not be regarded as inventions within the meaning of paragraph 1:
- C) schemes, rules and methods for performing mental acts, playing games or doing business, and programs for computers;
- Art. 52 (2): Paragraph 2 shall exclude the patentability of the subject-matter or activities referred to therein only to the extent to which a European patent application or European patent relates to such subject-matter or activities as such.

EPO rulings

- Vicom T208/84,
- IBM T1173/97,
- IBM 935/97,
- Controlling pension benefits systém/PBS PARTNERSHIP T931/95,
- Auction Method/HITACHI T258/03,
- Clipboard formats I/MICROSOFT T424/03,
- RSA Schlüsselpaarberechnung/GIESECKE & DEVRIENT T1326/06,
- Write allocation/NETWORK APPLIANCE T0743/11,
- Programmiersystem/RENNER T1539/09

EPO rulings

- Restrict grant of patents
- Computer programs are open to patenting to the extent that they provide a technical contribution to the prior art
- Technical contribution typically means a *further technical effect* that goes beyond the normal physical interaction between the program and the computer.

F/OSS

- Free software is software distributed under conditions that allow users to run the software for any purpose as well as to study, change, and distribute it and any adapted versions.
- Free SW definition – 4 freedoms - Stallman
- Movement – Free Software Foundation
- https://stackoverflow.com/

F/OSS

- Open-source software is a type of software with its source code made available with a license in which the copyright holder provides the rights to study, change, and distribute the software to anyone and for any purpose.
- Open Source Initiative

F/OSS

- Movements of Free and Open Source Softwares
- X proprietary SW, End-Users License Agreements (EULA)

F/OSS

- GPL (General Public License)
- Lesser General Public Licence (LGPL)
- GNU Affero General Public Licence (GNU AGPL)
- Different terms and conditions of license of a software