Privacy and Intellectyal Property Rigths

Legal Protection of Software

Computer Science

Originally an academic discipline:

Pascal, Leibnizt, Babbage, Boole, von Neumann

A. Turing, *On computable numbers, with an application to the entscheidungsproblem*, in 42 Proceedings of the London Mathematical Society, 230 (1936)

Publications, knowledge sharing, etc....

The Computer Industry

1952: First computer sold by IBM

1955: IBM creates the SHARE user group for its 704 Data Processing System. Members of the SHARE user group were competitor in their respective markets (for instance Lockeed and Boing)

1957: FORTRAN programming language

1959: Cobol programming language

60s:

First operating system: FORTRAN Monitor System

Multiprogramming

Time-sharing

The Computer Industry

1969-1973: Unix Operating System at the Bell Laboratories (AT&T):

«during 1969, Thompson developed the game of "Space Travel". First written on Multics, then transliterated into Fortran for GECOS (the operating system for the GE, later Honeywell, 635), it was nothing less than a simulation of the movement of the major bodies of the Solar System, with the player guiding a ship here and there, observing the scenery, and attempting to land on the various planets and moons. The GECOS version was unsatisfactory in two important respects: first, the display of the state of the game was jerky and hard to control because one had to type commands at it, and second, a game cost about $75 for CPU time on the big computer. It did not take long, therefore, for Thompson to find a little-used PDP-7 computer with an excellent display processor; the whole system was used as a Graphic-II terminal. He and I rewrote Space Travel to run on this machine.» , D. M. Ritchie, *The Evolution of the Unix Time-sharing System*, in 63 AT&T Bell Laboratories Technical Journal, 1984, p. 1577.

The Computer Industry

1969-1973: Unix Operating System:

Development of the C programming language:

High level programming language

Use of libraries makes the first (easily) portable programming language

1974: Publication of D. M. Ritchie & K. Thompson, The UNIX Time-Sharing System, in 17 Communications of the ACM, 1974, p. 365

The Computer Industry

The Unix copyright belongs to AT&T, owner of the Bell Laboratories:

1950 Consent Decree between AT&T and the U.S. Department of Justice: AT&T cannot enter the computer and software industries

"Freely" distributed to Universities and research center in source code format

John Lions (University of New South Wales in Australia), wrote a complete commentary of the source code

The Computer Industry

The Unix copyright belongs to AT&T, owner of the Bell Laboratories:

1979: with Unix Version 7 AT&T adopts a new license agreement that prohibits the use of the Unix source code as a teaching material:

- Need to keep to source code secret for the application of the trade secret rules

- Tanenbaum (Professor of Operating System, Vrije Universiteit of Amsterdam) writes MINIX as a teaching tool, without AT&T code

The Computer Industry

The Unix copyright belongs to AT&T, owner of the Bell Laboratories:

1982 New Consent Decree with the DOJ: AT&T looses its monopoly over telephone services and can now enter the computer industry: creation of the Unix System Laboratories

Era of the commercial Unix

Copyright Law and Software

Before 1976 (U.S. Copyright Act of 1909):

requires the protected work to be registered at the U.S. Copyright Office:

The copies deposited for registration [must] consist of or include reproductions in a language intelligible to human beings.» Copyright Office Circular No. 61 (1964)

Notion of copy:

A copy requires the possibility to «see and read with the naked eye» (White-Smith Music Publishing Company v. Apollo Company, 209 U.S. 1 (1908)):

Copyright Law and Software

U.S. Copyright Act of 1976:

New definition of literary works: «"Literary works" are works, other than audiovisual works, **expressed in words, numbers, or other verbal or numerical symbols or indicia,** regardless of the nature of the material objects, such as books, periodicals, manuscripts, phonorecords, film, tapes, disks, or cards, in which they are embodied.»

The Congress created the Commission on New Technological Uses of Copyrighted Works("CONTU"), for further amendments to the Copyright Law

Copyright Law and Software

CONTU and Computer Software Copyright Act of 1980

Introduces U.S.C. Title 17 § 117. Limitations on exclusive rights: Computer programs

Possibility of a backup copy

Possibility to adapt the software for personal needs

Copyright Law and Software

Europe:

In the '80s some national regulation (for instance France and U.K in 1985)

Council Directive 91/250/EEC of 14 May 1991 on the legal protection of computer programs

Repealed by Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs

Copyright Law and Software

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs

Art. 1:

- 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.

- 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.

Copyright Law and Software

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs:

Art. 2:

- 2.   In respect of a computer program created by a group of natural persons jointly, the exclusive rights shall be owned jointly.

- 3.   Where a computer program is created by an employee in the execution of his duties or following the instructions given by his employer, the employer exclusively shall be entitled to exercise all economic rights in the program so created, unless otherwise provided by contract.

Copyright Law and Software

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs:

Art. 4:

1. Subject to the provisions of Articles 5 and 6, 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;

(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.

Copyright Law and Software

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs:

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.

Copyright Law and Software

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs:

Art. 5:

1. In the absence of specific contractual provisions, the 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.

2. 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.

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.

Copyright Law and Software

Directive 2009/24/EC of the European Parliament and of the Council of 23 April 2009 on the legal protection of computer programs:

Art. 6:

1. The authorisation of the rightholder shall not be required where reproduction of the code and translation of its form within the meaning of points (a) and (b) of Article 4(1) are indispensable to obtain the information necessary to achieve the interoperability of an independently created computer program with other programs, provided that the following conditions are met:

(a) those acts are 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;

(b) the information necessary to achieve interoperability has not previously been readily available to the persons referred to in point (a); and

(c) those acts are confined to the parts of the original program which are necessary in order to achieve interoperability.