

Legal protection for computer software

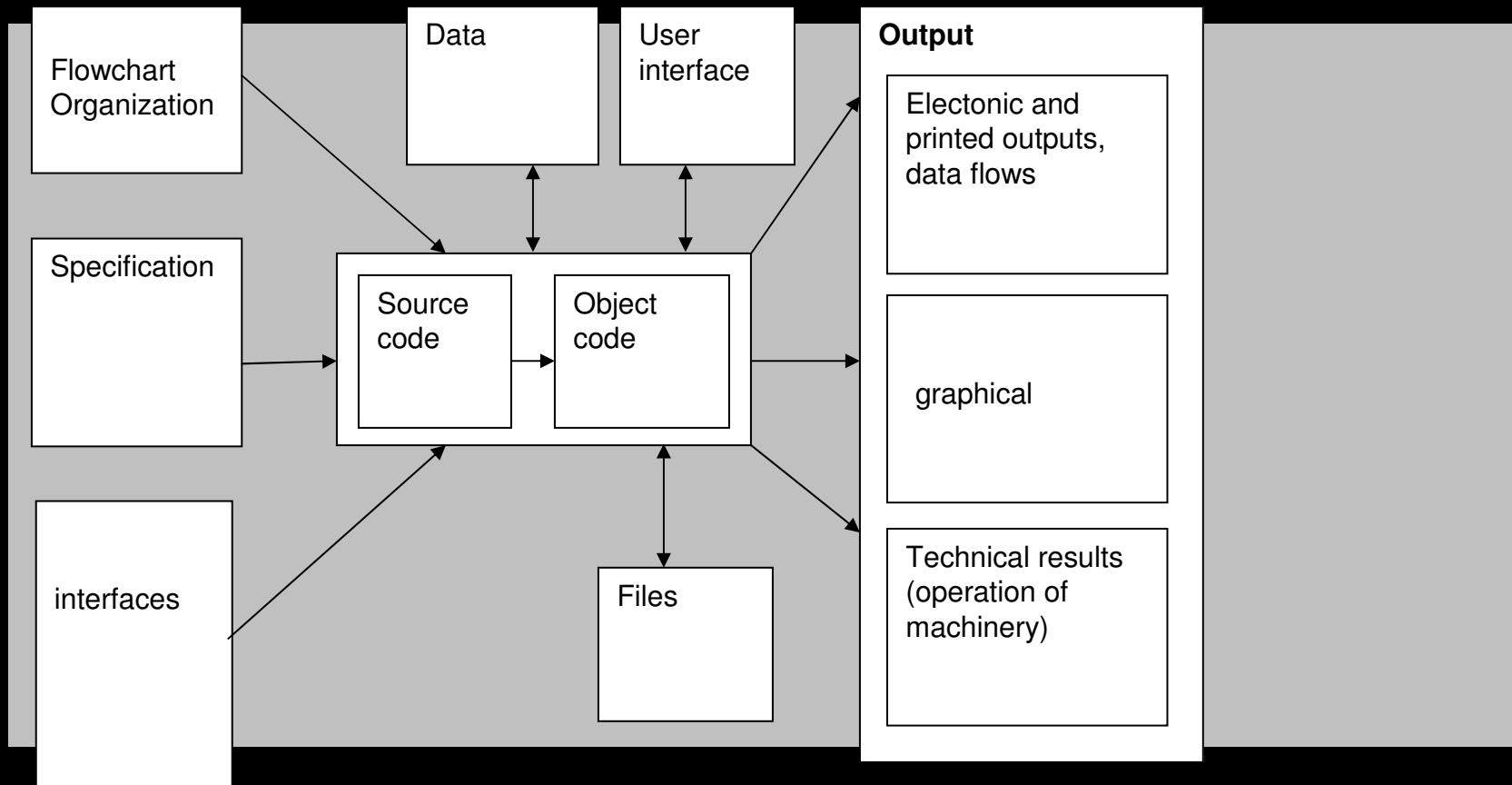
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Why protect?

- 1/3 of Boeing 767 is software
- Software has a social role in a modern society (education, medicine, etc.)
- Software makes the Internet possible
- Software is the code of the cyberspace

What is computer software: technical perspective



What is computer software: legal perspective

- Machine whose method of expression happens to be text (Prof. Pamela Samuelson, 1994)
- A system of commands and instructions, which cause a machine to behave in a certain way
- Preparatory design materials and interfaces?
- Is legal definition practical?

Main elements of computer software

- Preparatory Design Materials
 - Design schemes
 - Flowcharts
 - Specifications
 - Outside Interface/User requirements
- Literary Elements (Code)
 - Source code
 - Object (Binary) code

Wincap Master - [無題]/USDEMO98.prm

リポート (R) ファイル (F) 編集 (E) オプション (O) デスクトップ (D) 設定 (C) 一般 (G) ウィンドウ (W) ?

Cobol Program Items View: All I/O Program ME030

Wincap Line

ACCOUNT-FILE

ファイル 2 有効(A) 調整(O) モード C.F.I.L. 深さ(D) C.1

行 11 マーク(M) 閉じる(C) C.F.L. C.I.L. C.3

ファイル/命令/行	内容
106	00091 FD ACCOUNT-FILE
OPEN	1
925	00839 ACCOUNT-FILE
ORGANIZATI	1
57	00044 ORGANIZATION IS INDEXED

File Edit Bookmark Search Compile Local Window User Help

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00829 DISPLAY 'ERROR CONTROL FILE OPEN' WS-CNTRL-FS 00008300
00830 CALL 'DP905'. 00008310
00831 PERFORM 3000-READ-CONTROL-FILE THRU 00008320
00832 3009-READ-CONTROL-FILE-EXIT. 00008330
00833 ***** 00008340
00834 * THIS PARAGRAPH CONTROLS THE PROCESSING OF THE ORDER * 00008350
00835 * FILE. RECORDS ARE READ, PROCESSED AND PRINTED * 00008360
00836 ***** 00008370
00837 0400-OPEN-FILES. 00008380
00838 OPEN I-O ORDER-FILE 00008390
00839 ACCOUNT-FILE 00008400
00840 INVENTORY-FILE 00008410
00841 OUTPUT OE-RPT-FILE 00008420
00842 TJ-RPT-FILE 00008430
00843 OE-RPT-FILE2 00008440
00844 TJ-RPT-FILE2. 00008450
00845 IF WS-ORD-FS GREATER ZEROES OR WS-INV-FS GREATER ZEROES OR 00008460
00846 WS-ACCT-FS GREATER ZEROES 00008470
00847 DISPLAY 'OPEN ERROR' 00008480
00848 'ORDER FILE STATUS IS' WS-ORD-FS 00008490

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Main elements of computer software (2)

- Non-literary Elements
 - Interfaces
 - Outputs (User Generated and Computer Generated)
 - Methods of Operation
 - Original Algorithms
 - Business Methods
 - Other Advances

Main forms of legal protection for software

- Sui generis
- Copyright
- Patents
- Trade secrets
- Utility models
- Trademarks
- Contract law
- Technical protection measures (Code protects Code)

History of legal protection for software

- 1978 WIPO guidelines for legal protection of computer software & US CONTU proposals
- 1980 amendments of the US Copyright Act
- 1983 Japan MITI position papers
- 1991 EC directive 91/250/EEC
- 1994 TRIPS agreement
- 1996 WIPO copyright treaty
- 1998 US DMCA
- 2001 EC directive 2001/29/EC
- Proposal for software patenting directive (dead)

Sui Generis

- 1978 WIPO guidelines and 1983 Japan MITI papers advocated sui generis
- Main arguments:
 - Software is different subject matter from literature and artistic works
 - Traditional copyright is against the nature of the software (e.g. moral rights)
 - Patents offer too strong protection
- 1987 attempted in Brazil
- 1994 Manifesto by US Law Professors

Why copyright?

- Since 1990-ies copyright prevails
- Software back in the 1980 was comparable to a technical text
- No registration or any formal procedures – creation is sufficient for protection
- Long standing tradition
- Relatively uniform internationally (1886 Berne convention)

Scope of copyright protection

- Copyright protects original literary elements and preparatory design materials
- Originality may lie not-in the code – software may be based on reused code
- Original software sometimes falls outside copyright protection (idea-expression merger, *scenes-a-faire*, rationality)

Software copyright challenges

- Changes in programming models: software engineering v. software creation
- Non-textual parts (i.e. non-code) are not copyrightable (*Apple v. Microsoft*)
- Code accessible through decompilation and reverse engineering
- New programming methods (object/visual programming) require re-use of successful code
- Ideas non-protectable although most valuable
- Copyright protection for software available only in case of straight forward copying – 'piracy'

Patents: Alternative to software copyright?

- Article 52(2) of the EPC prohibits patents for computer programs '*as such*'
- TRIPS Article 27: "*patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application*"

Software patents

- Patenting of software as a part of a bigger technical invention allowed as of *Diamond v. Diehr* 1981 in the US; as of 1987 *Vicom* in Europe (EPO)
- Very mixed patenting success in European national jurisdictions
- Patent now protects algorithms, methods of operation, functional user interface designs, business methods
- Software patents are still under consideration by the EC (on 21 Nov 2001 diplomatic conference refused to reverse §52(2) of the EPC, however since 2002 draft EC directive on software patents considered)
- In 2003 there were estimated 25 000 Euro-patents pertinent to software

Software patents: pros & cons

- Patents grant a monopoly over ideas, hence patent protection is very strong
- Patents allegedly protect 'real' innovation in software
- Patents prevent fair-use (no reverse engineering or decompilation for interoperability is allowed)
- Arguably patents hinder further innovation & open-source initiatives

Software patents: pros & cons (2)

- Patents are costly, require major time expenses and national procedures
- International patents are inaccessible to SME's and individuals
- Expertise of software patent claims is very complicated

Big picture

- Copyright protects from straight forward code copying 'piracy'
- Software patents are here to stay
- Abuse of defensive and offensive patenting
- *De facto sui generis* protection – a mix of all sorts of IPR plus software specific rules

Newest trends

- Utility models for software?
- Technical protection measures
- Rise of the open-source and free alternatives
- Rise of importance of contract law (license agreements) enforced through technical protection measures
- Software user's rights
- Antitrust/Competition Law