Intellectual Property

'Who owns my polio vaccine? The people! Could you patent the sun?'

Salk (1914-1995), who developed the first effective anti-polio vaccine

Topics

- Intellectual Property and Changing Technology
- Copyright law
- Copying Music, Movies, Software, and Books
- Solutions (Good and Bad)
- Free-Speech issues
- Free Software
- Software Patents

IP and Changing Technology

- Intellectual Property relates to intangible creative work
  - Not necessarily the physical form on which it is stored or delivered.
- Compare:
  - Physically owning a compact disc versus…
  - … owning the copyrights for the music on the CD.

- Four types of protection:
  - Copyright: the right to copy a work
  - Patent: the right to use/recreate/manufacture an invention
  - Trademark: the right to use a word, phrase, sound
  - Trade secret: you don't tell anybody, nobody should know

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for your chance to win the new iPhone 4!

News | Canada

Feds split on digital locks

By JESSICA MURPHY, QMI AGENCY

Last Updated: January 31, 2011 7:37pm

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OTTAWA – Copyright reform is shaping up to be one of the most hotly debated bills in Parliament's winter session — and one with wide-ranging implications for Canadian consumers.

Among the most contentious issues in Bill C-32 is the ban on breaking so-called "digital locks," which can prevent people from doing things like shifting music from CDs to mp3 players or making backup copies of DVDs.

The entertainment industry supports digital locks as a powerful tool to protect copyrighted material. Under the new legislation, the locks will trump other provisions that loosen the current reigns on legally purchased digital products.

In announcing the new copyright bill last summer, Industry Minister Tony Clement cheered the provisions for equipping businesses with necessary mechanisms to defend intellectual property.

But as University of Ottawa law professor Michael Geist sees it: "You think you've bought something but control doesn't rest with you at all."

Geist, Canada's research chair in Internet and e-commerce law, is an outspoken critic of the digital lock provisions and calls them too hard line for the average consumer.

"It is one of the most inflexible and consumer unfriendly approaches on digital locks in the world," he said. "In a bill designed to hurt (digital) pirates it's actually hurting consumers most."

The government's hard line stance on the protective tool has also drawn the ire of opposition MPs tasked will helping refine Canada's copyright legislation.

"They're offering citizens a whole number of rights they won't be able to exercise," said NDP copyright critic Charlie Angus.

Latest News Stories

- Cop threatened to Taser prisoners
- New trial, new beginning after Smith scandal, mom hopes
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- City boosts development fees
- Kormos wants Welland 'poor' school stopped
- Ombudsman finds bad city service
- TTC approves Ashbridges Bay streetcar yard
- Picture released of man wanted in January assault

- What are some things the entertainment industry has done to protect copyright?
- Do you think these are justified?

Copyright

- (In Canada) Copyrights expires after …
  - 50 years after death of a person
  - 50 years in case of a company
- With some exceptions, copyright owners have the exclusive right to:
  - Make copies of the work
  - Produce derivative works
  - Distribute copies
  - Perform the work in public
  - Display the work in public

Examples of copyrighted work

- Literary works
  - books, pamphlets, poems
  - other works consisting of text
  - computer programs (!)
- Dramatic works
  - films, videos, plays, screenplays, scripts
- Music works
  - Compositions (words & music, or music only)
- Artistic works
  - Paintings, drawings, maps, photographs, sculptures, architectural works

Copyright vs. Patent

- Copyright:
  - Protects works that owe their origin to the **expressive efforts** of an individual.
  - Key is that if the work is “original” (i.e., created independently) then it can be “copyrighted”.
    - Even if there is a closely similar work in existence.
  - Copyright owner has rights only against those who use their work without permission (i.e., defense against plagiarism).

- Patents:
  - Protect the **discoveries of inventors**.
  - For as long as patent lasts, holder has a monopoly right.
  - This right prevents anyone from producing implementations of their invention, even if same discovery was made independently.

IP and changing technology

- Problems for IP owners with newly available IT:
  - High-quality copying
  - High-quantity distribution
  - Faster / easier copying
  - Less expensive

- But note!
  - Intellectual property law has always evolved…
  - … and has done so because of technological change.

Copyright law: History

- "Copyright" as a concept was not invented until after advent of the printing press
  - Prior to printing press, manuscripts were copied by hand.
  - Movable type introduced an economic incentive for piracy
- England: mid-16th to mid-17th century
  - Crown exercised authority over printing.
  - "Stationers' Company" guild chartered to have a monopoly on printing.
  - Original charter established by Mary I…
- England: 1710, "Statute of Anne"
  - Created a copyright system that applied to the public in general (and not just a chartered company)
  - Copyright was now vested in the author, and not the printing-guild member who published the work.
  - Introduced the concept of a "time limitation" (set at 28 years)
- Europe: Similar model of "sovereign grants"
- International copyright protection: non-existent for centuries

First victim of music piracy?

Georg Phillip Telemann
1681 to 1767

- An important Baroque composer from Germany
- Prolific composer
  - Estimates range from 800 to 3000 works
  - Publishing his works was one of his sources of income
- In 1737:
  - Discovered his works were being pirated in France.
  - Went to Paris for six months
  - Cultivated royal favour
  - Works were then published in France.

International copyright

- 1852:
  - France extended protection to all works of authorship…
  - … regardless of their national origin.
- Berne, Switzerland
  - September 9, 1886
  - First multilateral copyright convention in history.
  - A country agrees to give foreign authors the same protection it accords its own authors.
- This set up an international copyright union of member states (originally 14 members)
  - UK: one of the original group
  - Canada: joined in 1928
  - US: joined in 1989! Why?
    - Would have required major modifications to US law

US copyright law: history

- 1790: First US copyright law - covered printed material
  - newer technologies added later (photography, sound recordings)
- 1909: Definition of “unauthorized copy” was formed.
  - Established a compulsory licensing system
  - This meant permission for broadcast was not needed from the copyright owner…
  - … but payment of a royalty (set out in statute) was required.
- 1960s: Some software and databases receive copyright protection.
- 1992: Making copies for personal gain becomes a felony.
- 1997: Illegal to make copies regardless of financial gain.
- 1998: Illegal to circumvent copy-protection schemes. (DMCA)

Canadian copyright law: history

- 1924: First Copyright Act (based on UK Copyright law of 1911)
- 1988: Phase 1 of copyright reform (Bill C-60)
  - Introduced protection of computer software (recognized as a "literary work")
  - Copyright Board introduced
- 1989: Canada-US Free Trade Agreement
  - Provisions for satellite transmissions, radio, televisions
- Further changes also includes provision for royalties for performers and producers of sound recordings
- Last several years – repeated attempts to update copyright laws to be more in line with US
  - Latest: Bill C-32 (changes to fair dealing, ban on breaking digital locks) – will be discussed in upcoming session of Parliament

Copyright Law: exceptions

- Fair Dealing doctrine (= US “Fair Use”)
  - For some uses of copyright work, permission is not required.
  - Allows uses of copyright material contributing to the creation of new work.
    - … and which do not significantly affect sales of the material.
  - Allows some research and educational uses.
  - Also allows for news reporting and critiquing.
- Guidelines for determining fair dealing are found in legal precedent.

Fair dealing: Six Factors

1. Purpose of the Dealing
   - Research? Private study? Criticism?
2. Character of the Dealing
   - Single copies made? Multiple copies?
   - Distributed widely? Or to a limited group?
   - Were copies destroyed after its purpose accomplished?
3. Amount of the Dealing
   - How much of the work is used?
   - What is the importance of the infringed work?
4. Alternatives to the Dealing
   - Are non-copyrighted versions available to the user?
   - Could the work be properly criticized without being copied?
5. Nature of the Work
   - Was the work published? Or unpublished? Secret?
6. Effect of Dealing on the Work
   - Is it likely to affect the market of the original work?

Example: Who should win?

- Political group organizes a web site where people post copies of news articles and then comment on them, other readers also add comments.
- Newspapers who originally published the articles sue for copyright infringement.

Example 2: Who should win?

- Online service for checking essays for plagiarism
  - Uploaded essays are stored in database and used for future checking
- Some students sue the company for copyright infringement on their essay

Purpose of copyright?

- Should it protect the author in something that is rightly theirs?
  - Berne Convention
  - Protection should be as long and broad as possible.
  - Should only provide those exceptions and limitations essential in the public interest.
- Should it benefit the public by stimulating creation of artistic work?
  - Universal Copyright Convention (Geneva, 1952)
  - The law should only give as much protection as is necessary to induce authors to create and disseminate their works.
- Should it do both?
  - Middle ground
  - Purpose of copyright is to stimulate the creation and public dissemination of works
  - And also to give their authors a generous reward for their contributions to society.
- A delicate balance.

Fair Use Cases: US

- 1984: Sony v. Universal City Studios
  - Supreme Court ruled that non-commercial copying (recording) of a movie for viewing at a later time was fair use.
  - Court ruled that copying devices should not be banned if they have significant legal uses.
- 1992: Sega Enterprises, Ltd. v. Accolade, Inc.
  - Reverse engineering a complete program in order to produce new, creative work was ruled fair use.
  - In essence: Sega did not have a monopoly on selling games for its machines.

Copying: Music

- Improved technology allows easy, fast, cheap and widespread copying of music on Web.
- Entrepreneurs create businesses to facilitate storing and sharing of music files.
  - Many individuals set up free sites for music sharing, too.
- US: RIAA (Recording Industry Association of America) continues to fight unauthorized copying of music.
- Canada: CRIA (Canadian Recording Industry Association)
  - Launched a lawsuit in 2004 against 29 unnamed alleged music file sharers.
  - By May 2005: case heard by trial court and the appeals court
  - Both courts ruled that CRIA's case was not strong enough
  - "The court concluded that the evidence created the risk that innocent persons might have their privacy invaded and also be named as defendants where it is not warranted."
  - Courts instructed the CRIA to come back with stronger evidence.

Copying: Music (Canada)

- Before 1998, copying any sound recording almost always infringed copyright
- 1998: Part VIII of the Copyright Act
  - You can legally make a copy of musical recordings for **personal use**
  - Does not legalize
    - Copies made for someone else
    - Copies of anything other than music recordings

Copying: Music (Canada)

- Section VIII of the Copyright Act leads to some odd situations
- It is legal to:
  - Lend a commercial CD to a friend, give him a blank CD-R, let him use your computer, and help him burn the CD-R which he can keep for private use.
  - Copy a commercial CD, keep the copy, and give your friend the original.
- BUT, you cannot legally make the copy yourself and give your friend the copy.

- What are some fair reasons to copy music / movies?
- When does this cross the line?

Copying: Movies & TV Programs

- Improved digital technologies + greater bandwidth = copying and transfer of movies and TV programs
- Some businesses provide(d) free services to facilitate copying of broadcast material
  - RecordTV.com
  - Scour.com (bankrupt)
- US MPAA (Motion Picture Association of America)
  - Fighting unauthorized copying of their IP
  - Attempting to chip away at “Sony v. Universal Studios”

Copying: Software

- Same technologies contributed to unauthorized copying of software
  - commercial (i.e., within or by companies)
  - non-commercial (individuals)
- Many individuals & whole businesses continue to do this
  - Reproducing, transporting, & selling copies of software, manuals and supporting materials.
  - Also covers those who give away such material for free.
- US SIIA (Software Information Industry Association)
  - Lobby for increased protections for software
  - Raising awareness

Which should be fair use?

- Copying a friend's spreadsheet software to try out for 2 weeks, then either delete or buy your own copy?
- Copying a computer game to play for 2 weeks, with no intention to buy later?
- Others?

Copying: Books

- Again, improved technology enables copying of books that:
  - is simple to perform
  - quick
  - cheap
- Counterfeiters
  - Textbooks, novels, other printed matter
  - Profit is in not paying publishers or authors for their IP
- E-books use encryption to reduce copying
  - But some of these schemes have been cracked.

Napster

- Benefits (besides from being free)
  - Share music with other users
  - Obtain individual songs from a CD
  - Sample song from a CD
  - Access more songs (especially those unavailable commercially)
- Legal Issues
  - Was copying and distributing music through Napster within fair-use guidelines?
  - If not, was Napster responsible for user actions?
- US Supreme Court decision
  - Napster was guilty of encouraging and assisting copyright infringement

Solutions to IT's impact on copyright

- There are three groups of solutions
  - Technological
  - Markets and Management
  - Regulations and Enforcement
- Technological
  - Expiration date encoded.
  - Hardware dongle required.
  - “Activation” features.
  - Digital-rights management (DRM) – encryption and other schemes
    - Can prevent saving, printing, making more than N copies, distribution, extracting excerpts, ffw over commercials

Solutions… contd.

- Markets and Management
  - Subscribe to services
  - Collect fees from users and large organizations.
  - Meter usage of copyrighted material on a network.
  - Offer discounts to educational users.
  - Educate the public about the value of copyrighted material produced by creators and publishers.
- Regulations and Enforcement
  - US: The Digital Millennium Copyright Act (DMCA) and other laws.
  - Canada: Will there be a Canadian DMCA?
  - Enforce current laws and punish abusers.

Technology: Restrictions & Bans

- In the past, lawsuits have delayed, restricted, or banned the release of new technologies
  - CD-recording devices
  - Digital Audio Tape (DAT) systems
  - DVD recorders
  - DVD players
  - MP3 players
- Some governments or industry groups have created taxes or levies…
  - Goal: Reduce or prevent unauthorized copying and distribution of copyrighted material.
  - Further goal: Assist affected creators of this material.
  - Examples
    - Audio tapes, Blank CD-ROMs
    - CD recorders
    - Personal computers
    - Printers, Scanners

2011: The NDP wants a tax on all devices with a hard drive. Do you agree?

Technology: DRM?

- Digital Rights Management
  - When combined with laws such as the US's DMCA…
  - … can result in heavy fines or imprisonment (or both) for violators.
- Legal & monetary consequences can be applied to:
  - those who pirate intellectual work
  - scientists and researchers of technology

Circumventing Digital Locks

- Note: Canada does not have the equivalent of the DMCA
  - But we have come very, very close with Bill C-60 (tabled in 2005)
  - Now on the table again with C-32
- Fair Dealing
  - Prohibiting the use of circumvention tools may block exercise of Fair Dealing rights
- Free Speech
  - Prohibiting the sharing of information about circumvention of DRM or copy-protection schemes may violate freedom of speech.

Future of Copyright

- Challenges to the principles of copyright
  - Methods to circumvent copy-protection schemes.
  - Peer-to-peer (P2P) file transfer.
  - Ethical position among some that if copying is either easy, or cheap online access is absent, then copying is okay.
- Challenges to Fair Dealing
  - Technological (DRM) and legal (DMCA) restrictions.
  - Conflicting outcomes (e.g., reverse engineering case) in the courts.
  - Non-traditional uses (e.g., online teaching materials)

Free-Speech Issues

- IP protection?
- Or violation of free speech?
- Copyright:
  - Unauthorized posting of copyrighted documents for purpose of criticizing and organization.
- Trademark:
  - Domain names that infringe upon trademark claims.
- Trade Secret
  - Posting internal documents to expose unfair labour or business practices.

Free Software

- Notion of “free software” has been advocated by Richard Stallman
  - “Free” means “free from certain copyright restrictions”
- Examples:
  - GNU project
  - Emacs
  - “free” compilers and utilities
  - Linux
  - Apache webserver tools
  - GNOME

Patents

- Q: Should software be Copyrighted or Patented?
- Copyrights:
  - Protect the expression of an idea in a fixed or tangible form.
  - Are cheap, easy to obtain, and last a long time.
  - Allow fair dealing of the intellectual property.
- Patents:
  - Protect new, non-obvious, and useful processes.
  - Are expensive, difficult to obtain, and last for short periods of time (20 years in Canada & USA)
  - Allow licensing to other developers.

Copyright & software forms

- Recall that software can take several forms:
  - source code
  - object code
  - microcode (i.e., within processors)
- Each of these can be copyrighted
  - For instance, copyrighting object code deals with software piracy.
- But what happens if:
  - The copyrighted source code is in C…
  - … yet someone rewrites it into Java?
  - Is copyright infringed?
- US Courts have drawn no distinction between source and object code
  - Sculpture analogy: doesn't matter if sculpture is in bronze or in marble

Copyright and software forms

- But what about software versus hardware?
- Software is copyrightable
  - Yet we know that the same software could be turned into hardware…
  - … and hardware falls under the purview of patent.
  - (Note: the hardwired version could not be copyrighted.)
- Is software patentable?
  - 1970s: US Supreme Court initially ruled software as unpatentable
    - That is: algorithms were deemed to constitute abstract ideas or methods
    - This placed software outside of patentable subject matter.

Change…

- 1981: US Supreme Court revisited their earlier ruling
- "Diamond v. Diehr"
  - New position amended earlier one.
  - Software by itself is still unpatentable…
  - … but if tied to some physical component or substrate, it could be patentable.
- This particular case covered a technique for curing rubber.
  - The device included some element that performed computerized calculations.
  - These determined when curing was done.

Patents

- Possible patentable material:
  - machines
  - industrial processes
  - compositions of matter
  - articles of manufacture that are novel, useful, and non-obvious
- Patents are obtained in many jurisdiction by submitting an application to a Patent Office
  - US: Patent and Trademark Office (PTO)
  - Canada: Patent Office
- Patent must describe:
  - how to make the claimed invention
  - how to use it
  - claims delineating the inventions covered by the patent

Software Patents

- US law since 1981:
  - chipping away at restrictions on software patents
  - “stretching” patent law to accommodate software
- Examples: physical substrate
  - Software needs to produce some physical change in a machine.
  - Programs certainly do this
    - stored data in the form of computer memory (i.e., hardware with varying electrical or magnetic states)
    - moving from one such state to another is a physical change
  - Storing data or software code on a magnetic disk
    - Recognized a producing a novel and patentable article of manufacture.
    - That is, the disk with the stored data differs from the disk without it.

Algorithms & data structures

- US 1998: State Street Bank & Trust vs. Signature Financial Group
  - Signature Financial obtained a patent on a “hub-and-spoke” method of running mutual funds.
  - This depended heavily on computer technology.
- Idea:
  - Several mutual funds are the “spokes”; The single investment portfolio is the “hub”
  - Software determines the values of each fund based on its percentage of assets in the “hub”
  - Information is tracked on a daily basis (fund share pricing, tax accounting).
- State Street Bank asked that this business process be judged unpatentable as it was just a mathematical algorithm.
- A high-level court disagreed:
  - Court explicitly stated that business processes can form patentable subject matter
  - Consequence: algorithms and data structures are now considered by many to be “patentable subject matter”

US005193056A

United States Patent [19]

Boes

[11] **Patent Number: 5,193,056**

[45] **Date of Patent: Mar. 9, 1993**

[54] **DATA PROCESSING SYSTEM FOR HUB AND SPOKE FINANCIAL SERVICES CONFIGURATION**

[75] Inventor: **R. Todd Boes**, Boston, Mass.

[73] Assignee: **Signature Financial Group Inc.**, Boston, Mass.

[21] Appl. No.: **667,777**

[22] Filed: **Mar. 11, 1991**

[51] **Int. Cl.**[5] **G06F 15/21**; G06F 15/30

[52] **U.S. Cl.** **364/408**

[58] **Field of Search** 364/401, 408

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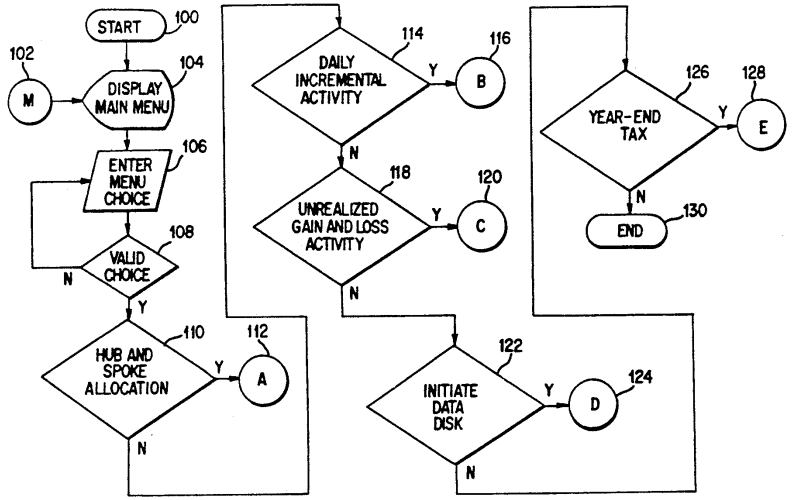
Primary Examiner—Roy N. Envall, Jr.
Assistant Examiner—David Huntley
Attorney, Agent, or Firm—Pennie & Edmonds

[57] **ABSTRACT**

A data processing system is provided for monitoring and recording the information flow and data, and making all calculations, necessary for maintaining a partnership portfolio and partner fund (Hub and Spoke) financial services configuration. In particular, the data processing system makes a daily allocation of assets of two or more funds (Spokes) that are invested in a portfolio (Hub). The data processing system determines the percentage share (allocation ratio) that each fund has in the portfolio, while taking into consideration daily changes both in the value of the portfolio's investment securities and in the amount of each fund's assets. The system also calculates each fund's total investments based on the concept of a book capital account, which enables determination of a true asset value of each fund and accurate calculation of allocation ratios between the funds. The data processing system also tracks all the relevant data, determined on a daily basis for the portfolio and each fund, so that aggregate year-end data can be determined for accounting and for tax purposes for the portfolio and for each fund.

6 Claims, 18 Drawing Sheets



Cover page from
Signature Financial Patent

Controversy

- Software may be protected under various forms of IP:
  - trade secret
    - assumes source code is unavailable …
    - … or at least closely held by a small group
  - copyright
    - covers expressions but not ideas
  - patent:
    - covers processes
- Economic advantage comes from patents
  - Many companies now have large “patent portfolios”
  - IBM, HP, Sun, Oracle, SAP, Novell
  - Patent infringement is avoided by extensive cross-licensing between companies.
- However, some claim software patents will devastate the computer industry
  - i.e., “absurd” patents

United States Patent [19]

Welch

[11] **Patent Number: 4,558,302**

[45] **Date of Patent: Dec. 10, 1985**

[54] **HIGH SPEED DATA COMPRESSION AND DECOMPRESSION APPARATUS AND METHOD**

[75] Inventor: **Terry A. Welch**, Concord, Mass.

[73] Assignee: **Sperry Corporation**, New York, N.Y.

[21] Appl. No.: **505,638**

[22] Filed: **Jun. 20, 1983**

[51] **Int. Cl.**[4] **G06F 5/00**

[52] **U.S. Cl.** ..... **340/347 DD**; 235/310

[58] **Field of Search** ..... 340/347 DD; 235/310, 235/311; 364/200, 900

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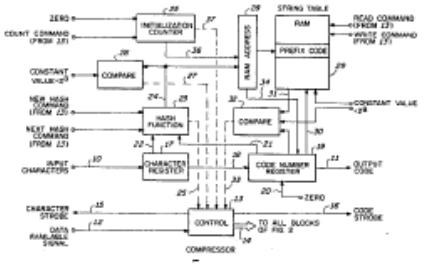
Primary Examiner—Charles D. Miller

Attorney, Agent, or Firm—Howard P. Terry; Albert B. Cooper

[57] **ABSTRACT**

A data compressor compresses an input stream of data character signals by storing in a string table strings of data character signals encountered in the input stream. The compressor searches the input stream to determine the longest match to a stored string. Each stored string comprises a prefix string and an extension character where the extension character is the last character in the string and the prefix string comprises all but the extension character. Each string has a code signal associated therewith and a string is stored in the string table by, at least implicitly, storing the code signal for the string, the code signal for the string prefix and the extension character. When the longest match between the input data character stream and the stored strings is determined, the code signal for the longest match is transmitted as the compressed code signal for the encountered string of characters and an extension string is stored in the string table. The prefix of the extended string is the longest match and the extension character of the extended string is the next input data character signal following the longest match. Searching through the string table and entering extended strings therein is effected by a limited search hashing procedure. Decompression is effected by a decompressor that receives the compressed code signals and generates a string table similar to that constructed by the compressor to effect lookup of received code signals so as to recover the data character signals comprising a stored string. The decompressor string table is updated by storing a string having a prefix in accordance with a prior received code signal and an extension character in accordance with the first character of the currently recovered string.

181 Claims, 9 Drawing Figures



Consumer and Corporate Affairs Canada / Consommation et Corporations Canada

(11) (A) No. 1 223 965

(45) ISSUED 870707

(52) CLASS 354-68

(51) INT. CL.[4] H03M 7/30,7/50

(19) (CA) **CANADIAN PATENT** (12)

(54) High Speed Data Compression and Decompression Apparatus and Method

(72) Welch, Terry A.,
U.S.A.

(73) Granted to Sperry Corporation
U.S.A.

(21) APPLICATION No. 455,994

(22) FILED 840606

(30) PRIORITY DATE U.S.A. (505,638) 830620

No. OF CLAIMS 38

Canada

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CCA-274 (11-82)

Cover pages from infamous LZW patent
(US on right, Canadian on left)
Compression scheme used in GIF file format

US005443036A

United States Patent [19]

Amiss et al.

[11] **Patent Number: 5,443,036**

[45] **Date of Patent: Aug. 22, 1995**

[54] **METHOD OF EXERCISING A CAT**

[76] Inventors: **Kevin T. Amiss,** 255 S. Pickett St., #301, Alexandria, Va. 22304; **Martin H. Abbott,** 10549 Assembly Dr., Fairfax, Va. 22030

[21] Appl. No.: **144,473**

[22] Filed: **Nov. 2, 1993**

[51] **Int. Cl.**[6] **A01K 29/00**

[52] **U.S. Cl.** **119/707**

[58] **Field of Search** 119/702, 707, 174, 905; 446/485

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Levesque et al., "Visual 'cortical-recipient' and tectal-recepient pontine zones play distinct roles in cat visuomotor performance", *Behavioral Brain Research,* vol. 39, Netherlands, 1990, pp. 157–166.

Primary Examiner—Todd E. Manahan

[57] **ABSTRACT**

A method for inducing cats to exercise consists of directing a beam of invisible light produced by a hand-held laser apparatus onto the floor or wall or other opaque surface in the vicinity of the cat, then moving the laser so as to cause the bright pattern of light to move in an irregular way fascinating to cats, and to any other animal with a chase instinct.

4 Claims, 1 Drawing Sheet

Cover page and diagram from "Method for Exercising a Cat"

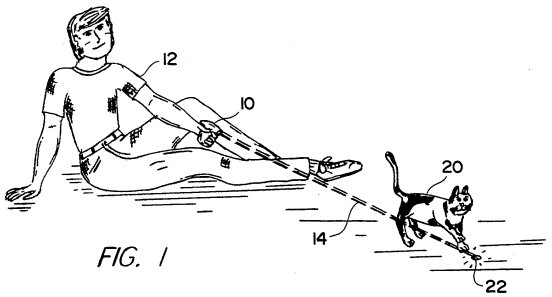


FIG. 1

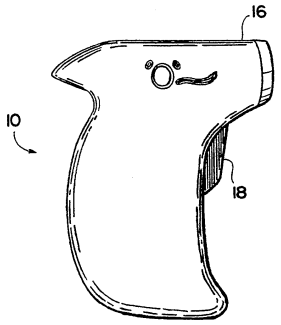
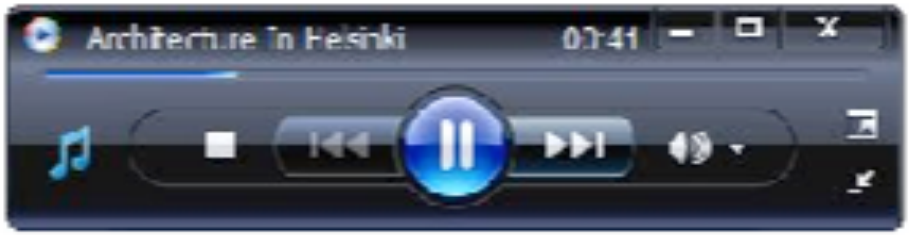


FIG. 2

Progress bar patent - Sony

- A method of providing information about recorded media content having a beginning and end time, said method comprising: displaying a progress bar having a first portion, said first portion graphically representing the duration of said recorded media content and having a first color; and displaying a second portion having a second color in said progress bar, said second portion graphically representing a section of said recorded media content that is viewed during a viewing session; wherein said second color is distinct from said first color; and wherein said second portion graphically tracks a navigation through said recorded media content being viewed in a trick mode.
- Filed: **August 25, 2004**
- **United States Patent 7,290,698**



How would you protect your software?

- Patent, Copyright, or Trade secret?
- Is it worth the time & $ to patent your algorithm?
  - Keep in mind – your patent is only as good as your ability to legally defend it
  - A patent is only effective in the country it is filed in – so you may need to file in many countries

Licensing

- Microsoft is probably infringing on Sony's progress bar patent
- But Sony is probably infringing on some Microsoft patents
- They sign licensing deals to allow each other to use the IP without risk of being sued
- Holding lots of patents is a defensive strategy for big companies

Free software & Open Source Licenses

- Berkeley software distribution license (BSD)
  - Code is free & can be modified, but must include a copyright notice
- Gnu public license (GPL)
  - New works made from software under the GPL must also be released under the GPL and have source code available (="copyleft")

Open source software

- What are the benefits of open source software?
- Drawbacks?

- As a for-profit company, would you contribute?

Perspective on controversy

- Computer Scientists and Software Engineers generally take stands against software patents.
  - This is perhaps to be expected.
  - Therefore we must beware of our use of “special pleading” arguments.
- Example of such an argument:
  - “Software is unique, therefore we must find a unique mechanisms other than patents and copyright to protect it.”
  - Only to be followed by “Digital media should not be treated any differently with respect to fair dealing under copyright.”
- IT professionals are (usually) not patent lawyers
- Even legal scholars doing research on software patents may not have first-hand experience praticing patent law.
- We should acknowledge our dislike of “unwanted” complexity.

Questions

1. Since patents are “property rights”, do they promote innovation?
   - Monopoly right with strict time limit
   - Some arguments against software patents are actually arguments against any patents.
2. Have patents evolved to address concerns raised by those who suspect software patents?
   - Recall that patents have been in existence for over 500 years.
   - Software has been around for a tenth of that time.
   - The infrastructure around software patents is being assembled, including better handling of infringement, examination, and identification of prior art.

Questions (continued)

3. Must the patent system be perfect?
   - Rhetorical question; but if there are too many mistakes in granting patents, the patent system will fail.
   - Patents may inhibit standards if holders do not agree to standard licensing agreements.
   - QWERTY keyboard; automobile controls arrangement – both were patented, but did not inhibit standards creation.
4. Is software different enough from other technologies that it is suitable for special treatment?
   - Other complex systems benefit from patents (i.e., airplane design, chip fabs, oil refineries)
   - Other small innovative companies benefit from patents (i.e., the "cottage industry" argument)

Questions (continued)

5. Is the Open-Source model superior to patent systems?
   - Open-source licenses are based on the copyright model.
   - However, some open-source projects (such as Linux) are based on innovative ideas developed by companies using patents (AT&T and UNIX).

6. Should difficulties in identifying “prior art” motivate alternate models for software IP?
   - Many horror stories of software patents are derived from the early days of such patents.
   - The US PTO has steadily improved its search for prior art.
   - Political dimension: How well do we fund our patent offices?

Questions (continued)

7. Is it fair to pose the question, “Is software patentable?”
   - This may now be a moot point.
   - Software has been patented now for twenty years or so.
   - There is now a lot of motivation for society to preserve the concept of such patents.
   - There also exists a huge pool of experts who know patent law as it applies to software.