Legal issues for geographic information: Module INM1361

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Introduction

• GIS levels of control and ethics
• Legal definition of maps and images due to their complex graphical nature as a visual language
• Difference in legal definitions when GI are digital
• Status of GI under data protection and privacy legislation, esp. as linkage
• Legal aspects of access for the collection of GI
• Problems of liability applied to GI use
Levels of Control

- **Certification**
  - candidate meets a specified set of criteria defined by a certification board
  - URISA, ASPRS, Cert. Institute, etc.
- **Qualification**
  - usually a degree obtained by following a formal university course of study
- **Licensure and Patents**
  - regulated by legislation, intended to protect public health, safety and welfare
  - Control on ownership and redistribution
  - Annual or monthly charge for use
- **Accreditation**
  - evaluation of education programs
  - BoK

Controls

![Control Image]

**Geographic Information Science & Technology Body of Knowledge**

- Analytical Methods
- Cartography and Visualization
- Conceptual Foundations
- Data Handling
- Design Approaches
- Urban and Rural Planning
- GIS Principles and Theory”
The GIS Code of Ethics

- Developed by Will Craig and the URISA Certification Committee
- Intended to help professionals make appropriate and ethical choices
- Help preserve and enhance public trust in the discipline
- May be used to apply sanctions for unethical behavior

URISA Website: Online 2003
The GIS Code of Ethics (ctd)

- Obligations to society
- Do the Best Work Possible
- Contribute to Community to Extent Possible
- Speak Out About Issues
- Obligations to Employers and Funders
- Deliver Quality Work
- Have a Professional Relationship
- Be Honest in Representations

The GIS Code of Ethics (ctd)

- Obligations to Colleagues and Profession
- Respect the Work of Others
- Contribute to the Discipline
- Obligations to Individuals
- Respect Privacy
- Respect Individuals
US-based expertise

- **NCGIA Initiative 16: Law, Information Policy and Spatial Databases**

GI as intellectual property

- What is GI?
  - Maps
  - Images
  - Gazetteers
- All capable of digital conversion or as visualizations of database content (Virtual maps)
- Intellectual Property law depends on “expression” i.e. physical form, so each media form is treated separately
- Protection through normal laws of confidence, contract, licensing, or patents if GI is an “invention”
Paper maps

- Considered an artistic work (US “sweat of the brow” doctrine)
- Expression is protected, so another cartographer can copy content independent of the work in the original
- Display “style” can be copyright, e.g. NG fonts
- Sands and McDougall Pty Ltd. vs. Robinson 1917
- Terms of copyright run for authors life plus 70 years

Cartographic traps

Carrington’s St. vs Carringtons Street
AA vs. OS

According to an article in the *London Times* (3/6/01), the British Ordnance Survey has deliberately made errors in its maps in order to be able to detect copyright violations. This was revealed when the British Automobile Association agreed to pay 20 million pounds ($32M) in an out-of-court settlement, after it was caught plagiarizing Ordnance Survey maps. The cartographers had added deliberate faults, such as tiny twists in rivers, exaggerated curves in roads, missing apostrophes in place names, and non-existent buildings, in dozens of their maps to trap people who were copyrighting them—a simple task when done digitally. Over 500 publications were involved, accounting for some 300 million paper maps. The OS would not give examples of its secret system, contending that the changes were not errors but “subtle and secret ways of detecting plagiarizing, rather like watermarks.”

DISCUSSION: Is a cartographic trap ethical? Is it legal?

In the United States

- Facts about the landscape are not subject to copyright
- Idea and expression inseparable: e.g. map of a legal boundary, or a pipeline
- Kern River Gas Transmission Co. vs. Coastal Corp (1990): Only way to show existence of a future pipeline was to draw it on a map
- Prior survey work was not sweat of the brow
- Protection against ‘monopoly over the facts’
US Freedom of Information Act (FOIA)

• Information, including maps, created by the Federal government at taxpayers expense shall be freely available to the public
• Change can only be the marginal cost of reproduction, e.g. copies, disks, mailing.
• Public interpreted as anyone
• Strictly, act requires challenge
• Example from USGS Reston: Cold War
• Reuse actively encouraged with partnerships
• Internet a godsend, removes many of the costs of the act

UK Maps under Crown copyright

“fair dealing”: Taking of an extract from an artistic work up to A4 in size for research, criticism, or private use is acceptable.

• Image produced from the Ordnance Survey Get-a-map service. Image reproduced with kind permission of Ordnance Survey and Ordnance Survey of Northern Ireland.
Crown Copyright

- When maps are produced by a national survey in the UK Crown Copyright applies
- Government will not extend copyright after 50 years following publication following EU Copyright Directive (2001/29/EC)
- So 1940s era OS maps are now out of copyright
- OS Landmark has republished to prevent old map market: Producers rights, “new editions”
- Copyright need not be registered, only intended, need statement, date and symbol on work

Out of copyright

- Baddeley (1880) Bartholemew Maps
Other than maps

- Imagery, photos same as maps
- Gazeteers, censuses, directories are literary works
- Protected by copyright law
- Test of originality: skill and labor
- Producers rights include layout

Geographic information in digital form

- Maps and images can be scanned directly to create digital image files, e.g. TIFF, JPEG, PNG, etc.
- Maps on paper contain points, lines and areas.
- These can be GEOREFERENCED into a world coordinate system and converted into sets of POINTS (x, y)
- Many formats relate points together as lines, and lines as polygons
- Also grids of numbers can cover terrain elevations etc.
- Important GIS capability is ADDRESS MATCHING, whereby street number, name and town or POSTCODES becomes a coordinate
- Directories can be considered compilations, more complex works like a dictionary or thesaurus
What is a digital map?

• In most jurisdictions digital GI is considered a compilation, a type of literary work
• Some individual elements may have copyright protection “raw data” have been transformed by the application of skill: becomes a work of art
• But originality test for literary works varies by country and place
• USA Feist vs. Rural Telephone 1991 Supreme Court decision that white pages could not pass “sweat of the brow” test
• US often uses contract law and licensing
European Originality Test

- Skill and labor used to define literary work
- E.g. Waterlow Directories vs. Reed Information Services (1990)
- Reed had written to all lawyers not in their directory but in the Waterlow to expand their listings
- Interlocutory finding against Reed
- New laws on database protection follow EU Databases Directive, has changed UK law

Waterlow
EU Databases directive

- Change in status of digital databases
- CPD Act of 1988 modified in 1998, adds databases as a category within “literary works”
- Takes DB out of compilations definition: “data or other materials that are arranged in a systematic or methodical way and that are individually available by electronic or other means”
- Higher test of originality than other literary works
- DB prior to 1998 still considered compilations

DB as literary works

- Internet allows instant composition, publication and unlimited distribution
- Making copies has no effect on the original
- Access control is possible
- Number of “symbols” necessary is huge
- Can make marginal change and claim new DB
- Makes moment of creation, act of creation difficult to define
Examples

• Royal Mail
  – 100,000 insertions and deletions daily
  – 24 million addresses in DB
  – Limits web queries to 10 per person
• UK Railtrack
  – Copyright notice updated daily

Fair dealing provision

• Digital GI treated as a DB does not have the same fair dealing provision as works of literature
• Extractions only for research and private use allowed
• UK CPD Act of 1988 requires source to be identified and no commercial use
• Article 9(2) of Berne Convention allowed national laws to permit exceptions to exclusive rights of authors, e.g. copies for private use, only under ‘special cases’ which do not conflict with ‘normal exploitation of the work of the author’
Examples of DB conflicts

- Mining, e.g. sending large numbers of individual requests so that most/all of the database is revealed
- Online redistribution via file-sharing “clubs” or openly e.g. Kazaa
- CA compromised data laws, notification

Fair dealing: The publishers view

- Publishers Assoc. has argued that law for paper products does not adequately protect digital
- EU copyright directive and US Digital Millennium Copyright Act both make breaking copyright protection a crime
- Precludes fair dealing
- Norwegian case: not illegal to break into something digital that you already own
Converting maps

• Scan capture violates copyright protection of “storing the work in any medium by electronic means”
• Redistribution also illegal
• “New edition” now almost meaningless
• Issue of attribution: student plagiarism
• Illegal (but easy) to modify in some cases

Open access: but…(UT Austin)

Perry-Castañeda Library
Map Collection
Japan Maps

The following maps were produced by the U.S. Central Intelligence Agency, unless otherwise indicated.

Country Maps
Japan (Political) 1996 (231K) and pdf format (234K)
Japan (Political) 1984 (381K) and pdf format (277K)
Japan (Shaded Relief) 1996 (233K) and pdf format (237K)
Japan (Small Map) 2006 (19K)
Japan, Administrative Divisions 1996 (215K) and pdf format (219K)

• Web Privacy Policy:
  • “The University of Texas at Austin is committed to ensuring the privacy and accuracy of your confidential information. We do not actively share personal information gathered from our Web servers. However, because The University of Texas at Austin is a public institution, some information collected from the UT Austin Web site, including the summary server log information, e-mails sent to the Web site, and information collected from Web-based forms, may be subject to the Texas Public Information Act. This means that while we do not actively share information, in some cases we may be compelled by law to release information gathered from our Web servers.”

GI as Databases

- EU database directive of 1996 (96/6/EC)
- Required member states to implement DB legislation by 1998
- UK has implemented as modification to 1988 CPD Act and Copyrights and Rights in Database regulations 1997
- New non-copyright “DB right” protecting works that do not qualify on the basis originality
- Include collections of geographical facts such as those in census and environmental data, e.g. remote sensing of “substantial effort”
- Establish owners right to prevent unauthorized extraction without the owners permission
- Permanent transfer of the DB contents to another medium, outside of normal licensed use
- Protection for 15 years after DB first made available
- Substantial change adds 15 years
- DB Regulation 20: Fair dealing only for teaching and research

Discussion

- What would you do if you needed a digital map for university research?
- What data on YOU might be in a GI database protected under the Database Directive or Crown Copyright?
- What geo-facts about you personally should be public? Which available at cost? Which absolutely confidential?
Chicagocrime.org

California, Megan’s Law
Public disclosure info

Data protection and privacy

- Maps and imagery can link information across DB in powerful ways
- Small area geodemographics used extensively in marketing
- EU Directive of 1995 (95/46/EC) required member states to enact data protection statutes
- UK covered by 1998 Data protection act
- Much less clear in US, compilations copyright with little private protection
Linkable DB

- Large scale mapping
- Census
- Electoral roll
- Telephone directories
- Geodemographics
- Health data
- Bank records
- Telephone and mobile records
- Legal records
- Internet use
- City/store/traffic cameras
- See: Raper et al. 1999

Liability in GI

- Accuracy an issue in ownership, taxation
- Navigation limitations (Car, ship, air, military etc.)
- Brocklesby vs. United States 1985: Charts for air navigation designed for real-time decisions so producers liable
- Brocklesby vs. Jeppeson 1985: USGS topo maps rendered on navigation instrument were cause of accident
- Zinn vs. State: Lake level/boundaries and property value. Land owner received damages
Access and Secrecy in GI

- Rights of access to land for mapping
- 1841 Ordnance Survey Act
- Collusion in obscuring military property
- UK Govt uses D-notices to suppress maps
- Overhead imagery under control of intelligence agencies, but now widely available at high resolution
- UN Principles on Remote Sensing
- Increase in full spectrum, high resolution monitoring

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Overhead reconnaissance in military intelligence
Dwight Eisenhower and “Open Skies”

SoCal Green: California Coastline Records Project
The Rant of Jeanett McFall

• Play the rant 🎧

Does she have a right to be upset?
Should her tape be available on the Internet?
Trackstick