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Conflicts in the Use of Geographic Information

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Final Report for Period: 09/2000 - 02/2003

Submitted on: 07/17/2003

Principal Investigator: Onsrud, Harlan J.

Award ID: 0080447

Organization: University of Maine

Title:

Conflicts in the Use of Geographic Information

Project Participants

Senior Personnel

Name: Onsrud, Harlan

Worked for more than 160 Hours: Yes

Contribution to Project:

Name: Craig, William

Worked for more than 160 Hours: No

Contribution to Project:

Consultant on questionnaire design, statistical analysis procedures, and description of geographic data conflict scenarios drawn from experience.

Name: Harvey, Francis

Worked for more than 160 Hours: No

Contribution to Project:

Consultant on questionnaire design, statistical analysis procedures, and description of geographic data conflict scenarios drawn from experience.

Post-doc

Graduate Student

Name: Bethell, Amber

Worked for more than 160 Hours: Yes

Contribution to Project:

Completed workplan and developed these from the work

Undergraduate Student

Technician, Programmer

Other Participant

Research Experience for Undergraduates

Organizational Partners

Other Collaborators or Contacts

Activities and Findings

Research and Education Activities:

This project sought to determine differences and similarities among parties in the importance placed on supporting specific societal goals germane to the use of geographic technologies and databases. Previous research determined six areas where the potential for disagreement between different parties might be high. These areas involve concerns over location privacy, intellectual property rights, liability, access to government data, geographic information as a public good, and sales of government data. A survey was accomplished to identify areas where conflicts might exist between users and developers of geographic information systems and those who are the subjects within or whose actions are being affected by such systems. The methodology measured whether individual respondents were internally conflicted over competing pairs of goals as well as whether groups as a whole held significant disparate beliefs to those of other groups.

Findings:

While the thesis must be read to understand the three sets of primary measures used and the nuances of the responses of the various parties involved with digital geographic information, as general propositions across all categories of respondents:

Government geographic data: Many individuals are conflicted over how much control government agencies should have over government produced geographic data, the government sector wants more control over government data, the commercial company and academic sectors would like greater access to government data, and data subjects do not think that limiting access to some government data is of substantial importance.

Location privacy: Privacy is important for most individuals and sectors, those surveyed strongly support protecting privacy over allowing commercial companies or government do what they wish with information about individuals, individuals are often conflicted in terms of how much right the government should have to fulfill its objectives versus protecting individual privacy, and the group sectors of commercial, government and academic are conflicted over the extent of use of personal information that should be allowed by commercial companies in achieving their objectives

Similar summary findings are reported under the study topics of liability, public goods, and intellectual property. Further broad findings are that:

- individuals were significantly conflicted internal to themselves over five out of the eleven sets of competing goals
- conflicts in responses were significant for data subjects versus GIS professionals (government, commercial and academic) for 8 out of the 23 survey questions
- among GIS professionals (government, commercial and academic) conflicts in responses were significant in 10 out of the 23 survey questions
- among GIS professionals, those identifying themselves as producers, managers and users were conflicted over only 3 out of the 23 survey questions

Training and Development:

This research contributed to the in depth training of a graduate student in designing questionnaires and in accomplishing web based surveys. The methodology and results are now available for other graduate students to use as a base to extend from.

Outreach Activities:

Parties involved in this research have been involved in developing a Code of

Ethics for the Urban and Regional Information Systems Association (URISA) that has now been adopted . Future workshops are likely to arise at both URISA and UCGIS meetings focused on discussion of conflicts similar to the scenarios explored under this project.

Journal Publications

Books or Other One-time Publications

Amber Bethell, "Evaluating Conflicts in the Use and Development of Geographic information Systems", (2002). Thesis, Published Bibliography: MS Thesis, Department of Spatial Information Science and Engineering, University of Maine

Web/Internet Site

Other Specific Products

Contributions

Contributions within Discipline:

In addition to the substantive findings, a methodology was developed for systematically identifying and analyzing potentially competing goals of parties involved as users or data subjects in spatial databases. Paired statements were developed such that if the two statements were both supported, each of which contained plausible laudable goals, a conflict would result for decision makers or policy makers. Using the paired but randomly sorted statements, a survey instrument and a means for quantitatively assessing responses was developed. The method should be useful in similar conflicted goal assessment research.

Contributions to Other Disciplines:

The perceptions of appropriateness of actions in the sharing and handling of geographic information may inform the likelihood of witnessing similar overall reactions in other scientific and technical data sharing environments.

Contributions to Human Resource Development:

This research contributed to the in depth training of a graduate student in designing questionnaires and in accomplishing web based surveys. The methodology and results are now available for other graduate students to use as a base to extend from.

Contributions to Resources for Research and Education:

Issues raised through this project have led Professor Onsrud to develop and offer a three-credit undergraduate course in Information Systems Ethics that is now being offered the first semester of each year and is open to students campus-wide. No specific contributions to infrastructure or pedagogy were created through this project.

Contributions Beyond Science and Engineering:

The perceptions of appropriateness of actions in the sharing and handling of geographic information as divulged by this research may inform policy makers and other parties in the government, commercial and academic sectors of the likely responses of other sectors and individuals if specific

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