"Enhancing Citizen Participation with Mobile GIS/GPS Technology"
NWACC A Proposal to the Northwest Academic Computing Consortium (NWACC)

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INTRODUCTION

GIS technology is capable of incredibly sophisticated analyses using a variety of simple and complex data sets. In the hands of a highly trained technician, this technology can be fully utilized. GIS technology can also have a big impact in a less technical environment: building community through participatory processes of local data collection, entry, and analysis. This project is intended to more thoroughly explore the potential of mobile GIS/GPS technology to empower local citizens, build community capacity, enhance sense of community, and build social networks. This proposal seeks to fund the acquisition of mobile GIS/GPS units, the development of an appropriate GIS service-learning curriculum, and to carry out student-community asset mapping projects that will allow students and community residents to jointly explore neighborhoods and the nature of "community". This service learning effort will be carried out through a course titled "GIS and Social Planning", which is an interdisciplinary applied GIS course that attracts students from planning, public policy, geography, environmental studies, and landscape architecture, among others. In this course, students learn both about the advanced use of GIS technology and about concepts of community empowerment and change, and the potential role GIS can play in these types of efforts. Students are required to have a hands-on project, which could easily be re-directed to accomplish the goals of this proposed effort.

PROJECT DESCRIPTION

Community-based GIS is an increasing area of interest to a variety of scholars, nonprofit and neighborhood organizations, and students. Much of the attraction is that a spatial approach to very localized issues can be extremely helpful in enhancing local decision-making. Yet most community residents and organizations lack the capacity in terms of skills, time, or money to use GIS/GPS. Students, on the other hand, are gaining the technical skills and desire real-world applications to test and enhance their skills and knowledge. With a University's desire to continuously be a contributing member of the larger community, creating a way for students to bring spatial technology to neighborhoods is an idea that satisfies many goals.

Public Participation and GIS (PPGIS) is a growing field with scholars and practitioners looking at ways to combine spatial technology with citizen participation to enhance the level of social discourse and policy making. One form of PPGIS occurs at a very grass-roots level, engaging citizens directly in all facets of spatial decision making. This includes gathering data, entering data, analyzing data, and reporting the results of the analysis. Separately, within the field of community development, there is a movement toward asset-based community development. Traditional community development focused on needs assessments, which generally focus on community problems such as crime, poverty, poor educational attainment, or a degraded environment. In an asset-based framework, community issues are focused on the strengths within a community, such as the existence of parks, churches, or even individual homes where, for example, lemonade is often served to neighborhood children.

The intent of this project is to connect students with different neighborhood representatives and citizens and to jointly pursue community-based mapping endeavors that will both empower local citizens in their neighborhood efforts and give students a hands-on educational activity that combines new tools with a real world opportunity to apply the tools. Neighborhood residents would be asked to join with students in walking the streets of their neighborhoods, cataloguing different aspects of the community in a spatially explicit way using mobile units that combine GIS and GPS technologies. Residents and students will be trained on the use of the mobile devices, will jointly be responsible for deciding the types of spatial data to collect and for entering the data. Students will have the primary responsibility for initial data analysis, although neighborhood citizens will be invited to critique that analysis. Students will then create final maps based on the analyses and present those maps back to the community for further discussion.

Part of this project is to gather hard to get asset-oriented localized data in a joint effort between students and community members. Part of the project, though, is also to determine whether this type of citizen engagement can lead to more intangible effects, such as the building of a "sense of community" and by enhancing individual social networks by connecting neighborhood residents that might not have been connected beforehand. To assess these effects, the class-based project will be supplemented by a research process that seeks to asses these effects before and after the community asset-mapping project begins. This assessment will include a brief survey before hand and a survey and focus group of participants afterward. A focus group of student participants will also take place in order to assess the educational aspects of the project.

UNIVERSITY SUPPORT
This proposed project has received a wide variety of support from across the University of Oregon, reflecting the value that many see in both teaching students how to use mobile GIS/GPS technology and how to apply such technology to make a difference in our communities. Endorsements of this proposal include: the University GIS Committee, the department of Planning, Public Policy and Management (PPPM), the Geography Department, the InfoGraphics Lab, and the Social Science Instructional Lab (SSIL). The

physical GIS/GPS units will be stored at SSIL, rather than in any one department, so that the entire University community will have continued access to this technology once the initial project concludes. SSIL already has procedures in place for checking out technology-oriented equipment and is willing to provide a similar service for the GIS/GPS units. SSIL staff, along with the University GIS Committee, have also expressed interest in developing an independent, self-paced training module on the new equipment so that their use is maximized campus-wide.

PRINCIPAL INVESTIGATOR
Professor Marc Schlossberg will be the principal investigator for this project and has a wide variety of experiences that will ensure the success of this project. Professor Schlossberg has designed and teaches the primary course that will initially conduct this project, has been using GIS for ten years and teaching GIS for seven, focuses his GIS work on local, community-based projects, and has been an active participant in the first two national conferences on Public Participation GIS. Moreover, Professor Schlossberg has moderated participatory GIS sessions at the Oregon Planning Institute conference as well as a recent national conference on Smart Growth.

PROJECT SCHEDULE
The proposed project will be implemented in four phases: 1) Professor Schlossberg and a Graduate Teaching Fellow will test the units and develop an appropriate course curricula, including lab assignments and finding national examples of when similar efforts have been conducted; 2) contact neighborhood leaders and identify a case study neighborhood that would be willing to work on a community-based asset mapping project alongside students; 3) carry out the project during the term; and 4) share the experience and the research results with interested University of Oregon faculty and potentially at a regional or national conference.

PHASE 1: July-August 2004
1. -Hire two student assistants – one to work with the GIS/GPS units and one to begin to develop a project web site
2. -Purchase mobile GIS/GPS units (the software – ArcPad – is already owned by the University)
3. -Professor Schlossberg and student modify the course curricula to accommodate this proposed project; this includes developing new lab assignments designed to train students on the new devices
4. Develop project web site
5. Link project website to NWACC website

PHASE 2: August-September 2004
1. contact and meet with neighborhood representatives
2. identify the types of data to collect that would be most beneficial to that neighborhood
3. design and distribute flyers throughout those neighborhoods soliciting citizen input into the project

PHASE 3: Fall term, 2004
1. implement the project
2. survey neighborhood participants
3. students collect data with neighborhood citizens
4. data is analyzed
5. final maps are disseminated back to neighborhood residents
6. conduct separate focus groups with neighborhood citizens and students

PHASE 4: Winter 2005
1. Disseminate results of project to university faculty interested in incorporating course materials via a workshop organized through the SSIL Lab
2. Submit report to NWACC about success of project and goals for future implementation across the disciplines

Other Sources of Support
ArcPad software contributed by the University of Oregon as part of the University's site license for all ESRI products (4 licenses)

Graduate Teaching Fellow (GTF) – a GTF will be provided during the fall term course by the Department of Planning, Public Policy and Management (PPPM).

The SSIL lab will take on the responsibility for checking out equipment to the larger campus community once the initial course use is completed.

The president of the West University Neighborhood, an area characterized by student riots over the last few years and generally poor University-Community relationships, has recently approached the PPPM department to seek ways to build a better relationship. This NWACC project is likely to be the first effort, and it is likely that the University Administration will help financially support the process. No commitment has yet been made, however.