

FY2009 Learning Technologies Grants Proposal

(COVER PAGE)

Project Information

Use of Interactive Media as a Teaching Tool for Educational Programming in Parks and Protected Areas

Project Title

Craig A. Miller

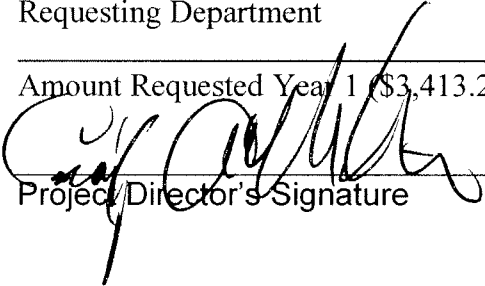
Project Director

Warnell School of Forestry and Natural Resources

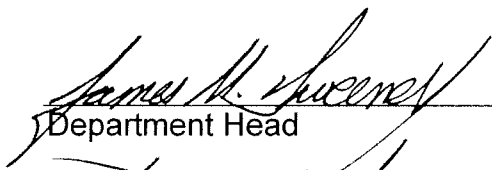
Requesting Department

Amount Requested Year 1 (\$3,413.21)

Amount Requested Year 2 (\$0.00)


Project Director's Signature

Proposal Endorsement Signatures


Department Head

 9-15-08
Dean

Proposal Abstract (100-word maximum)

This project intends to purchase equipment needed to develop student-learning projects that employ the affordances of technology (e.g. Podcasts, Global Positioning Systems/Global Information Systems, digital video streaming, etc.). Students will develop websites promoting the educational programs in parks, cultural and historic sites. The development and implementation of these projects will be under the supervision of the Project Director and conducted through various courses in several units across campus. Students will also conduct evaluations of the use of the technologies by visitors at the sites.

Project Description

Innovation

Podcasts of educational programs are being applied as a means for learning outside of classrooms. Use of this type of technology, and others are beginning to be adopted in outdoor learning environments. Handheld mp3 players allow visitors to national and state parks, national forests, and other protected areas to receive educational programs on natural, historic, and cultural topics without having to depend on human interpreters. Geographic Positioning System (GPS) units combine with .mp3 players to guide visitors on trails and to sites of interest. Combining GPS units with .mp3 players enable visitors to conduct self-guided tours of parks and protected areas. Radio Frequency Identification (RFID) chips can be located on sites to provide informative programs for self-guided educational tours. Panoramic heads to 360 degree photos are employed in park and ecotourism site promotion by allowing website visitors to click on specific sites on Google Earth and other web locations.

This project proposes to employ technology in new fields currently not employing such innovations and will be able to tie into other initiatives on the University of Georgia Campus, namely iTunes University, podcast pilot server tie-ins, and use of podcasts in NRRT 3310 and throughout the University.

Need/Rationale

Traditional approaches to park visitor information and education has relied upon programs presented by interpretive rangers, informative signs in physical locations, and printed pamphlets. Electronic media now provide opportunities for visitors to parks and other protected areas to learn about the natural environment without having to depend on interpreters, thus removing the need to visit sites during hours when interpreters offer tours and programs. Given current fiscal constraints use of interpreters is declining in many of these protected areas, therefore need for electronic media is becoming more widespread. The National Park Service, the USDA Forest Service, other state and federal agencies, and private operators are now in the early stages of adopting electronic media such as podcasts, GPS units, and interactive webpages to inform and educate visitors at selected sites. Students studying recreation, environmental education, and park management need to learn and adapt such new technologies in developing educational and interpretation programs. Learning how to employ innovative electronic media allow students to be in the forefront of employing electronic media in educational programs in park and protected areas.

Specific Request and Project Description

Requested funds for this project are for equipment to enhance the NRRT course offerings, and will also be used across the University curriculum.

This project seeks to provide students with the knowledge and experience in planning, developing, and employing electronic media in informational and educational

programming in protected areas (including but not limited to parks, wildlife refuges, historic sites). This project plans to introduce students to programming and planting Radio Frequency Identification Chips (RFID) along trails and at other sites of interest. RFID chips will key in on mp3 players carried by visitors and being program messages. Educational programs will be available to visitors at visitor centers or kiosks, as well as downloaded from protected area websites. GPS units will be used to plan site locations, upload information into Google Earth and Google Maps, and displayed on protected area websites. Websites will also display 360 degree photos of the sites for prospective visitors. Students will develop plans to incorporate these technologies, implement plans, and evaluate use of the technologies by site visitors (including developing the evaluation instrument).

A model for use of podcasts for environmental interpretation by the National Park Service has been undertaken at Cumberland Island National Seashore by two graduate students of Dr. Craig Miller of the NRRT faculty. Another example of students using technology in this capacity are the students in Dr. Miller's RLST/NRRT/ATHRO 5900/7900 who are currently using GPS units, Google Earth, and web-based programming to plan and develop an interactive website highlighting natural resource tourism for the Rabun County Convention and Tourism Bureau. The project proposed here would expand upon these pilot projects by introducing new technologies, and well as provide adequate equipment for use by an expanded number of students in the field.

Further applications of these technologies will be made in a new course *Field Studies in Ecotourism* that will use RFID chips, podcasts and GPS units to develop self-guided historic and cultural interpretive programs for the island of St. Croix in the US Virgin Islands. This project will be undertaken in support of the National Park Service efforts to designate the island as a National Heritage Area. The educational programs developed by the students will focus on the sugarcane industry of the island, history of slavery, and transformation of the island following emancipation. Students will record themselves reading first-hand narratives from slaves and Danish plantation owners and workers, and have these narratives available as podcasts for visitors to various sites throughout the island. A second application will be to use RFID chips, podcasts, and GPS geocaching at selected sites throughout Rabun County, Georgia for the County's Convention and Tourism Bureau, GA DNR Division of State Parks, and the USDA Forest Service.

Relevance of the Project to Unit and University Priorities

The Natural Resources Recreation and Tourism (NRRT) program in the Warnell School of Forestry and Natural Resources is the newest program in the school, approved by the Board of Regents during February 2006. The program now hosts 20 undergraduate and 14 graduate students and is the third largest undergraduate program in the School. This project will further the mission of the NRRT program, the Warnell School of Forestry and Natural Resources, and the University of Georgia by fostering the development of graduates from the program competent in employing new technologies in their chosen fields. NRRT courses are cross-listed with Recreation and Leisure Studies (RLST) and Anthropology (ANTH). This project will therefore involve students from these programs as well.

Specific Courses and Student Groups

Specific courses benefiting from this project include those listed below. Students enrolled in these courses include not only majors from Natural Resources Recreation and Tourism, Recreation and Leisure Studies, and Anthropology but also students from the Terry College of Business, Franklin College of Arts and Sciences, and others from across the University community.

Course	2008 Enrollment
RLST/NRRT/ANTHRO 5400/7400	28
RLST/NRRT/ANTHRO 5900/7450	27
NRRT 5935/7935	20
NRRT 5930/7930 (field course)	10
FANR (Senior Project)	46
FANR (Independent Study)	12

Budget

Item	Quantity	Total Cost	Requested from LTG	Provided by Other Sources
RFID Chips and Reader	5	295.00	295.00	
iPOD nano 8 gb mp3 player	5	674.70	674.70	
Sony ICD-SX68DR9 Digital Voice Recorder	1	199.99	199.99	
Flip Video Recorder (60 min.)	10	1383.12	691.56	691.56
Garmin Oregon 200 GPS Handset	4	1919.96	959.98	959.98
Notebook Headset	2	119.98	119.98	
Bogen 300N Panoramic Head	1	207.00	207.00	
Bogen 3416 Leveling Base	1	100.00	100.00	
Manfrotto 055XPROB Tripod	1	165.00	165.00	
SonySteadyshot DSC-H2 Camera				499.99
Total Request			\$3413.21	\$2151.53

Budget Justification

- Funds to purchase 5 complete packets of RFID chips and readers to be used by students to develop on-site natural resource, cultural, and historic educational programs in protected areas. Five packets are needed to ensure a) a variety of sites are utilized in the course exercises, and b) that all students have the opportunity to employ this technology.
- Five mp3 players are requested to ensure enough are available for use by student teams developing projects (1 player per team).
- Sony Digital recorder is requested to provide students with the capability to record educational program messages for mp3 players.
- Five Flip Video recorders are requested to allow students to record site videos to be incorporated into websites to promote natural resource, cultural, and historic aspects of protected areas. Videos will also be available as teaching aids through on-line applications including distance learning.
- Garmin GPS units are requested to provide equipment available to students in the courses listed. Current GPS units are borrowed from other courses (e.g., Forestry) and are not available at all times or in adequate quantity for use by students enrolled in courses listed.
- Two headsets are requested to provide students with the means to record mp3 broadcasts using Audacity program (freeware program).
- Panoramic head, leveling base, and tripod are needed to produce 360 degree photos of protected areas to incorporate into website for project locations.

Timeline

Date	Objective	Person Responsible
January 20, 2009	Equipment purchased	Craig Miller
April 30, 2009	RFID chips in place in 2009 project locations. mp3 recordings developed. GPS coordinates recorded. Pilot tests of trail and interactive sites developed.	Craig Miller Morgan Nolan Tripp Lowe
December 2009	Evaluations completed.	Craig Miller

Project Evaluation

Students will develop survey instrument to evaluate utilization of technology by visitors to protected areas used in the projects. Students will administer and analyze evaluation survey results for courses in which these technologies are used for projects.

Additional evaluation of students' understanding and competencies will be conducted by Craig Miller as instructor of the courses. This evaluation will be conducted using a written survey, as well as qualitative assessment by semi-structured interviews. Following this evaluation, students will be instructed as to the methods employed so that they can understand the use of such evaluation techniques in the field.

Learning Outcomes

Specific learning outcomes include:

- Students gain opportunities to learn and apply applications of instructional technologies in an area of their field in which such technologies have not been applied to date
- Students integrate interdisciplinary approaches to develop educational programming for protected areas
- Students develop educational products such as interactive websites, podcasts, and interpretive materials to support park visitor education, historic and cultural interpretation, and ecotourism services for public and private sectors
- Producing graduates from the NRRT and other programs who have the capacity to employ new and innovative approaches to creating visitor information and education programs
- Offering students opportunities to plan, develop, implement, and evaluate a field project using new technologies

In addition to the courses listed above, this project will support the new Masters of Natural Resources in developing outreach programming and educational pedagogies. As the courses listed are open to the student body of the University, students from Speech and Communication may also benefit from this project.

Support Plan

Support for this project will be provided by course faculty instructor Craig Miller; Morgan Nolan, Warnell School Media Coordinator; and Tripp Lowe, Warnell School GIS and Mapping Coordinator.