

GROCS

Grant Opportunities [Collaborative Spaces]

2007 Student Research Awards

GROCS 07 Student-Research Awards

Five student-initiated research projects have been selected as GROCS award recipients for Winter Term 2007. GROCS - Grant Opportunities [Collaborative Spaces] - is a program launched in 2005 that provides collaborative space, equipment and funding for students to engage in interdisciplinary research of their own design. The GROCS 07 projects reflect a common concern for social issues, an interest in using technology to support or understand communal activities, and curiosity at the intersection of digital and physical spaces.

The five projects selected received high scores from 12 reviewers for encompassing four criteria: a vision for enhancing academic activity (teaching, learning or research); collaboration as a means to improve the quality of academic activity; rich media and/or locative technology as a tool for enhancing academic activity; and interdisciplinary perspectives among the team members.

The program received proposals from

- 16 teams
- 25 different schools and major departments represented
- 51 students: 32 graduate students and 19 undergraduate students

The awarded teams represent:

- 10 different schools and major departments
- 18 students: 3 undergraduate and 15 graduate students.

Selected teams receive an unrestricted cash grant of \$2,500 per student team member and \$1,500 for each team's faculty advisor, work space in the Duderstadt Center and a budget for special equipment.

ACE for Art

Participants:

- Brian Kerr (School of Information)
- Sadie Wilcox (Art & Design)
- Melissa Wright (Kinesiology)

Advisor:

- Susan Brown (Kinesiology)

Abstract:

We envision a GROCS project that will enable individuals with tetraplegia (upper limb paralysis due to a spinal cord injury) to engage in online art collaboration. In order to participate in a visual art workshop, individuals with tetraplegia will utilize adapted technology devices appropriate to their level of physical function. Online art collaborations are not currently accessible to individuals using these adapted technologies. The focus of our project is to design a fully accessible collage workshop, which will enable groups or individuals to showcase their finished projects online, in a gallery exhibition, or in a public mural. The collage workshop will provide a channel for conversation and cooperation that is equally inclusive of all participants, regardless of the physical challenges presented by upper limb paralysis.

Web: <http://aceforart.org/>

BlimpBots

Participants:

- Jason Dietrich (Art and Design)
- Jeffrey Powers (Computer Science & Engineering)
- Sam Wintermute (Computer Science & Engineering)

Advisor:

- Domitilla DeIVecchio (Electrical Engineering & Computer Science)

Abstract:

We propose to simulate complex system behavior similar to the schooling of fish, the flocking of birds, or the backup of a traffic jam, using a flock of computer-controlled indoor Microblimps. Several webcams and computers implementing a Scale-Invariant Feature-Transform (SIFT) algorithm will track the blimps, and their motion will be automatically controlled via radio. The parameters dictating the interactions of these "BlimpBots" will be modifiable by participants. By documenting the process and making available our algorithms, the project can be exported as a learning aid that provides a visceral demonstration of the often difficult-to-visualize concept of how small changes in a complex system can have a large transformational impact on the system as a whole.

Web: <http://mblog.lib.umich.edu/blimpbots/>

Diagnosing the Digital Divide: Exploring Rich Media's Potential for Improving our Global Health Information Systems

Participants:

- Jonathan Brown (Computer Science)
- Katherine Hartman (Art & Design)
- Heather Lanthorn (Health Behavior & Health Education (SPH))
- Nolawi Taddesse (Epidemiology & International Health (SPH))

Advisor:

- Andrew Babson (School of Education)

Abstract:

Our objective is to explore the uses of rich media devices in strengthening health care systems with poor infrastructure by connecting health workers in East Africa to visual educational materials, to each other and to academics and health professionals outside of East Africa. We wish to facilitate interaction, idea sharing and knowledge transfer. Health systems, health workers and patients in East Africa suffer greatly from the lack of connections between components of the health system. Paid and volunteer health workers face both vertical and horizontal isolation from their surrounding health system due to geography and regional infrastructure limits on technology. This lack of relevant community limits their ability to interact both with those higher up the referral chain as well as with parallel services in the area.

These problems will be addressed in two research phases. Initially, we will create a user-generated content site, which will foster this interaction, and allow information to be exchanged quickly and democratically. We will then explore ways that rich media and locative technology can be incorporated into the site in order to improve and enhance this system of interaction, idea sharing and knowledge transfer. Our user-generated approach to health systems strengthening will allow incorporation of other geographic areas coping with HIV/AIDS. This rich-media environment has the potential to create a global community of health workers who are better supported, are more supportive and are better informed than ever before.

Web: <http://mblog.lib.umich.edu/Digidivide/>

Eat This Michigan!

Participants:

- Allison Apprill (Art and Design)
- Earl Carlson (Art and Design)
- Julie Cotton (SNRE Terrestrial Ecology)
- Matthew Diephouse (Computer Science Engineering)

Advisor:

- Joe Trumpey (faculty - Art and Design)

Abstract:

The project goal is to create an interactive tool that helps University of Michigan students recognize that their food choices have a significant impact on environmental and social issues. The consequences of what we eat go far beyond simple nutrition and our own bodies, reaching into the realms of social justice and environmental sustainability.

We want to empower students to make a difference by becoming informed, responsible food consumers. In order to reach the students in a format that is both familiar and interactive, we will create an internet blogging website chronicling our daily actions and experiences related to food issues, complemented by the experts we talk to, activities we engage in, and resources that we find along the way. This blog will give students a behind-the-scenes look into the local "food web", while showing that being a responsible consumer can benefit organic and local growers.

Through interviews with local urban and rural farmers, documentation of the life cycle of some common food stuffs, and exploring research here at U-M, we will connect our actions to the larger issue of responsible consumption as it relates to the environment and community, from the local scale to the global.

Web: <http://mblog.lib.umich.edu/eatthismi/>

Prospero: A "Visual Commons" Framework for Community-Aware Public Displays

Participants:

- Ben Congleton (School of Information)
- Paul Hartzog (Political Theory, Complex Systems and School of Information)
- Sayan Bhattacharyya (Comparative Literature)
- Charles Kaylor (Urban and Regional Planning)

Advisor:

- Paul Resnick (School of Information)

Abstract:

Prospero is an infrastructure to enable public displays to reflect evolving public participation. Public displays, that is, displays located in public spaces and accessible to a public, constitute an increasingly important element of the public sphere.

We will develop an infrastructure for community-aware public displays that are controlled by users' expressed needs and preferences; we see our endeavor as part of an ongoing, democratic reclaiming, by citizens, of control over an increasing number of aspects of the public sphere in general.

Web: <http://mblog.lib.umich.edu/prospero>

GROCS is an experimental project of the Digital Media Commons (DMC) in the Duderstadt Center. Created in 2002 by the Office of the Provost, DMC is a dynamic collection of spaces and programs that assists students and faculty members who are integrating rich media and traditional media in collaborative teaching, learning and research.

From 4:00 pm- 5:30 p.m. on Fridays, GROCS staff hold Friday Afternoon Tea where all students and faculty members in the University community may learn more about these projects. Tea and snacks will be served in Design Lab One of the Duderstadt Center, on North Campus, where the GROCS program will be housed.

For more information, contact Linda Kendall Knox, managing producer of GROCS, at (734) 764-1434 or GROCS.info@umich.edu.