

I. CLA-OIT Instructional Equipment Grant: Project Title and Summary (5 points)

Title: Creative exposition and social engagement through mobile visualizations and sonification

This project has two primary goals: 1) To facilitate and promote the exposition of creative audio/visual work by students to a broad audience in a wide variety of spaces, 2) To encourage and support student engagement with their community and their urban environment. We intend to pursue these goals by constructing three mobile broadcast units (MBUs, please refer to the enclosed diagram) and by supporting their creative use through courses offered in the Interdisciplinary Program in Collaborative Arts, the Spark Festival, and through collaborations with Art, Music, Theater and Dance courses. Each mobile unit consists of 1) a specially designed bicycle, 2) a laptop, 3) a small generator for providing power, 4) a battery powered sound system, 5) a high quality laser pointer for drawing, 6) a camera for tracking the laser pointer, 7) a high quality projector. These mobile units will be used to project student works (in the form of video, interactive video, still images, installation works, architecture/design visualizations) in public places. They will also be used in collaborative productions with Dance and Theater departments.

II. Educational Challenge and Connection to CLA Strategic Plan (15 points)

Please explain the educational challenge this grant will help address and provide a clear connection to the College of Liberal Arts Strategic Plan (<http://www2.clu.umn.edu/admin/deans/>).

- 1) A primary challenge in arts education in general and in the University of Minnesota's West Bank Arts Quarter in particular is the difficulty of sharing work across the arts, with disciplines outside of the arts, and with the community outside the university.
- 2) Especially pertinent at present is the challenge of attaining public visibility for the new Interdisciplinary Program in Collaborative Arts (IPCA). This new program offers a unique and rich opportunity to students interested in interdisciplinary creation of scholarly work that address the sciences as well as the humanities. There remain many undergraduate and graduate students, as well as faculty members, institutes and programs across campus who would be very interested in IPCA's focus and offerings, but who may be unaware of IPCA's existence.
- 3) Pedagogically, we face challenges in initiating and completing truly interdisciplinary research projects across the college of liberal arts. Though many common threads of interest exist, finding concrete vehicles for bringing together agents from different areas and finding mutually beneficial pedagogic contexts can be difficult.
- 4) Another challenge facing arts pedagogy is keeping students engaged in art making outside of the classroom. Students in the arts must learn how to integrate art making into their life outside of school. Therefore, the art curriculum would benefit greatly from technologies and courses that would encourage students to actively participate in art making outside of the arts building and for audiences that are outside their academic circles.
- 5) Finally, we must prepare students for their artistic life after university. One way to help them with this is to introduce them to other students, artists, researchers or organizations outside of the university. Connections of this type are invaluable for a successful post-university experience.

III. Project Description (50 points)

a) Impact: Identify the course(s) that will be impacted and their expected enrollments. Also describe any

perceived potential for using this technology beyond the scope of your own classes in the future.

The primary vehicle for this project is a course to be offered by IPCA in the spring of 2008 titled "Art for the People, Art on Wheels." We expect enrollment of 15-20 students. The focus of this course is the form and function of art in our present day environment. This course will be a hands-on study of the practice of making public art as well as a historical and theoretical study of present day public art. The course will primarily concentrate on the medium of video and include three primary components: 1) The MBUs we plan to construct are identical to those designed by The Graffiti Research Labs. We will spend the first 4 weeks of class building three MBUs according to their documentation. 2) Students will be asked to scavenge, edit and create video works fit for public display. As this course is a 3000/5000 level course, students will already have some experience in creating visual content (video, photography or web-based). The course will also make a survey of well documented public art works and use visual media from this documentation to revisit these work. 3) With the MBUs, the class will take the visual works (created by students and studied in class) into our urban environment as a way to share art in the public domain, in order to experience the works outside of the classroom setting and to contribute to our community by creating this form of ephemeral art.

In addition to the IPCA course where students will build the units and realize the first events that use them, a wide range of courses in the Arts will also make use of the equipment funded by this grant:

Dance (reported by Carl Flink, Director of the Program)

DNCE 4601 Dance Composition 3 (two section with 10-12 students in each)

DNCE 4602 Dance Composition 4 (one section with 10-12 students)

DNCE 5601 Dance Composition 5 (one section with 8-12 students)

DNCE 3700 Performance (20-25 students)

DNCE 5700 Performance (20-25 students)

Arts (reported by Professors Lynn Lukkas, Diane Willow, and Chris Baeumler)

ARTS 1601 Time and Interactivity (22 students)

ARTS 3603/5630 Experimental Video (15-20 students)

ARTS 3605/5650 Sound Art (15-20 students)

ARTS 5670 Interdisciplinary Collaborations (15-20 students)

ARTS 3306/5306 Performance Art (15-20 students)

ARTS 5701 Performed Photography: Documentation of Artistic Acts and Social Interventions (15-20 students)

Theater (reported by Martin Gwinup, Associate Professor in Sound Design/Technology and Stage Technology, Multimedia Creator)

TH4556 Digital Audio and MIDI (15-20 students)

TH5553 Video Production Design and Aesthetics (15 – 20 students)

TH5554 Multi-Media for Live Performance (15 – 20 students)

In addition to the above courses, there are a myriad of uses for such a powerful machine which extend across a wide range of contexts, including 1) Integration into any event taking place outdoors including dance classes and performances, installations displayed during the Spark Festival and other public presentations, 2) High visibility, low cost publicity for student events in the West Bank Arts Quarter, 3) Compelling architectural augmentation of the West Bank Arts Quarter buildings (namely the Regis Center for the Arts and the Barbara Barker Center for Dance) by way of projected images that intelligently interact with the building's

form. Note that Regis and Barker were both designed with potential for surface projections specifically in mind.

b) Project goals: Articulate the project goals, Project goals should be specific and directly related to the educational challenge. Describe how the proposed technology will address the educational challenge and enhance the teaching/learning process and student experience.

Our primary goal in this project is to get students excited about making creative works and sharing them with their community in an engaging manner. Music and bike culture are both very strong parts of the Minneapolis identity. This project is therefore bound to be attractive to many students. The MBUs empower students to take charge of sharing their work, choose their venue, and access a much wider audience. These units also allow students to cross over, both literally with the MBU bikes and figuratively, to other parts of the university community.

The MBUs also give students a powerful vehicle for engagement with their greater environment and community. From artistic and creative expression, to political engagement, this project encourages students to be more involved with their communities both within the university and outside it and to share and contribute more of their mind and work with their surroundings.

We expect enrollment in courses in the arts will increase with more visible and effective publicity. We also expect that conveying a present day urban aesthetic in courses, events and activities in the arts will increase enrollment. As mobile culture, laptop culture, visual culture and bicycle culture are all undeniably strong elements of student life, the proposed mobile projection units will attract significant attention from the student body. Increased enrollment means more creative energy instilled into student life and community.

The mobility of these units and the ubiquitous nature of computation and visual media (especially in the form of video) will facilitate collaboration among the arts areas as well as across the college. The units and the course offer many opportunities for interdisciplinary applications and collaboration.

c) Access: Describe the physical space required (location and availability) and limitations, if any, to public access to the equipment by the general CLA student population.

Above all, the goal of this project is to engage students in creating and sharing visual and sonic arts in their surrounding environment. To this end, the mobile projection units will be housed in the Regis Center for the Arts where they will be readily available to the students. Karen Haselmann, the CLA-OIT Technical Support staff and resource manager for the department of art, has proposed that Rooms W131. W130 the East wing storage room are also possibilities for storage space. Students enrolled in courses in the IPCA program, as well as other future courses that make direct use of the MBUs, will have access to the units through the Art Department's web-accessible checkout system. Students will have priority access to two of the MBUs and the third will be available for use by faculty and graduate students.

d) Personnel: Describe the roles and responsibilities of those involved in seeing the project through.

The project demands the aid of two 25% appointment graduate research assistants to overlook the construction, maintenance and utilization of the mobile projection units. These research assistantships will augment 12.5% teaching assistantships for courses that make use of the MBUs. The responsibility for these RA-ships will be to 1) facilitate student uses of the MBU units for creative projects, 2) to support and maintain the units themselves – making repairs and alterations as needed 3) develop instructional material for future student.

IV. Budget Planning (20 points)

a) *Matching Resources*

Scholarly Events Fund, requested for a residency/workshop from Graffiti Research Labs (please see below).

b) *Technology Description: Please provide descriptions and rationale for the items listed in your budget, including why you chose the requested items over competitor products. Please identify any technical support staff who you consulted during the process of choosing the requested tools.*

The Interdisciplinary Program in Collaborative arts will undertake this project with the consultation of Graffiti Research Labs (GRL), the internationally renowned originators of the mobile broadcast unit idea. Ali Momeni has already met with the two main agents of GRL who are enthusiastic about helping us create the MBUs, conduct courses and pursue research in mobile projection. They have agreed to visit the campus and spend some days working with our students and will participate in the 2008 Spark Festival as featured artists.

The items listed for purchase therefore directly reflect the equipment list recommended by GRL. The only addition is that of a control-interface for intuitive and gestural interaction with the MBU. Karen Haselmann has also been instrumental in supporting this project and evaluating its feasibility.

c) *Leveraging CLA standards: Please explain how your project conforms to CLA standards; for any deviances from CLA standards, please explain.*

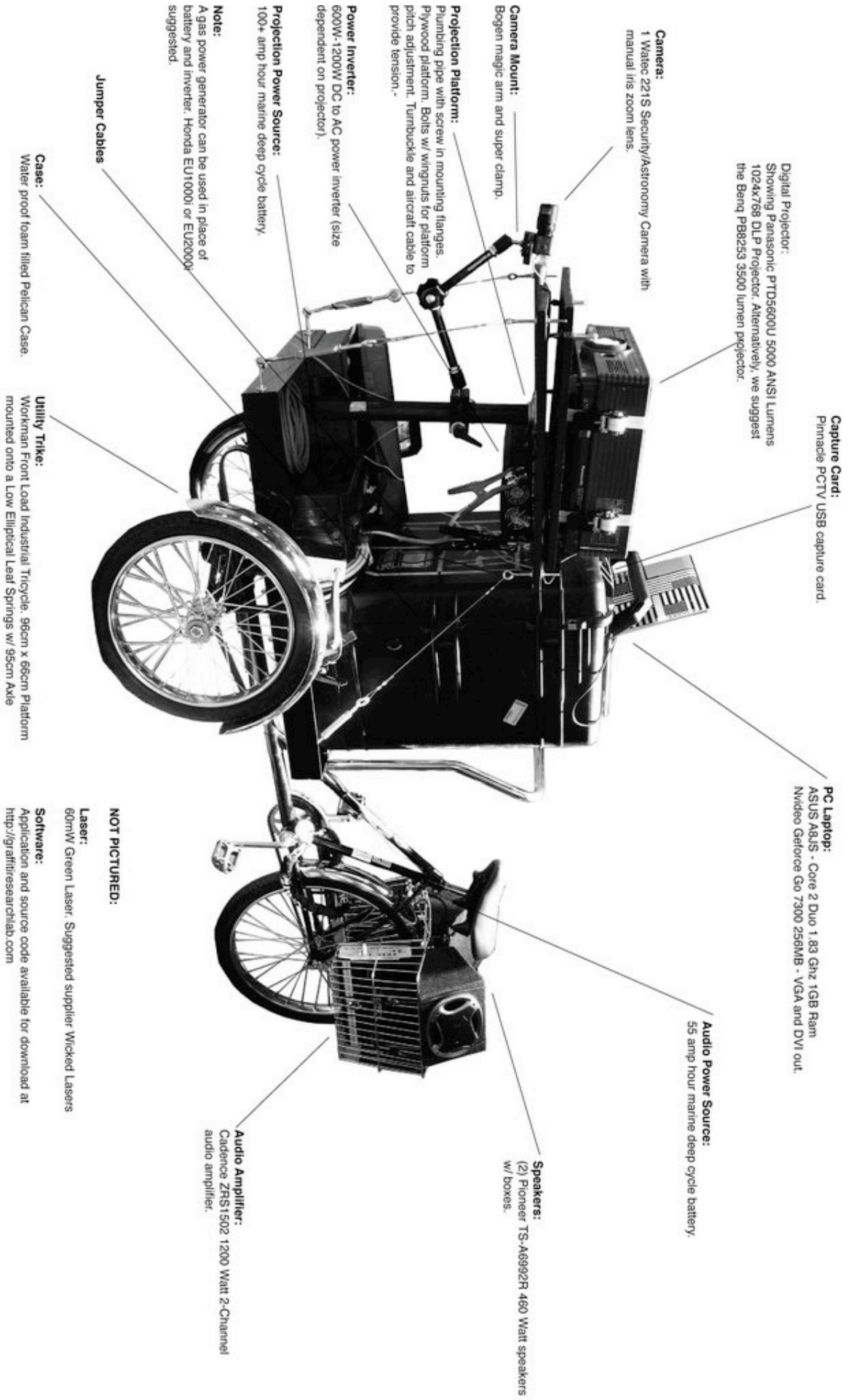
Ali Momeni has shared the item list and construction kit with Karen Haselmann. In constructing the MBUs, we will directly follow the documentation from Graffiti Research Lab. A number of other international groups have also constructed such units using the Graffiti Research Lab's thoroughly constructed manual. We therefore have created our budget according to their formula. Within the materials necessary, the projector is perhaps the most important in terms of CLA standards. In this case, we have chosen the Panasonic listed because our applications require at least 5000 Lumens of power; within those constraints, we propose the minimum required model. Aside from that, the major cost components are the camera (we need very high color accuracy for good detection), the bicycle (at \$700/unit, Workman Bikes construct an incredibly robust model that is ideal for our application), the laptop (we need a very powerful graphics card, and the same software-hardware combination as that optimized for Graffiti Research Lab's OpenSource software).

V. Evaluation and Sustainability (10 points)

Outline your plan for formative and/or summative evaluation of your project.

The following factors will indicate the success of this project:

- 1) The number of courses that make use of the MBUs.
- 2) Student Course Evaluations for all courses that make use of the units
- 3) The number of student works projected with the MBUs
- 4) The span of new territories (both within and outside the university) exposed to student works using the MBUs
- 5) Media attention dedicated to student projects using the MBUs.



Capture Card:
Pinnacle PCTV USB capture card.

Digital Projector:
Showing Panasonic PTDS600U 5000 ANSI Lumens 1024x768 DLP Projector. Alternatively, we suggest the Benq PB8253 3500 lumen projector.

PC Laptop:
ASUS A8J - Core 2 Duo 1.83 Ghz 1GB Ram Nvidia GeForce Go 7300 256MB - VGA and DVI out.

Audio Power Source:
55 amp hour marine deep cycle battery.

Camera:
1 Watco 221S Security/Astronomy Camera with manual iris zoom lens.

Camera Mount:
Bogen magic arm and super clamp.

Projection Platform:
Plumbing pipe with screw in mounting flanges. Plywood platform. Bolts w/ wingnuts for platform pitch adjustment. Turnbuckle and aircraft cable to provide tension.

Power Inverter:
600W-1200W DC to AC power inverter (size dependent on projector).

Projection Power Source:
100+ amp hour marine deep cycle battery.

Note:
A gas power generator can be used in place of battery and inverter. Honda EU1000i or EU2000i suggested.

Jumper Cables

Case:
Water proof foam filled Pelican Case.

Utility Trike:
Workman Front Load Industrial Tricycle. 96cm x 66cm Platform mounted onto a Low Elliptical Leaf Springs w/ 95cm Axle

Speakers:
(2) Pioneer TS-A6992R 460 Watt speakers w/ boxes.

Audio Amplifier:
Cadence ZRS1502 1200 Watt 2-Channel audio amplifier.

NOT PICTURED:

Laser:
60mW Green Laser. Suggested supplier Wicked Lasers

Software:
Application and source code available for download at <http://ygratfiresearchlab.com>