A Proposal to Establish a Unique Teaching and Collaborative-Computing Space in Uris Library

The Instruction, Research and Information Services' Department of Instruction and Learning proposes to collaborate with the Classroom Technologies group in CIT's Distributed Learning Services and Professor David Schwartz, Computer Science, to construct a unique teaching and collaborative computing space in Uris Library. Building on the success of the Library's CreationStation project, CIT's expertise in computer classroom design and instructional technology, and Professor's Schwartz's research on computer-based learning with cooperative-group models, we will create a much-needed facility for faculty and students alike.

Students and faculty have access to computers all over campus. There are computers in their dorms and offices, in computer labs and libraries. There are, however, few spaces specifically designed for groups that wish to use computers and other advanced technologies to collaborate on projects. As Simson Garfinkel recently noted in *Technology Review*, "the clusters of workstations that still dot the MIT campus are an answer to a problem that no longer exists. What's needed instead are facilities where teams of three to five students can get together to work on projects."

In the Uris Library CreationStation Lab, we used conventional computer furniture to provide students with high-end computers, peripherals, and software in a setting that promotes collaborative development of course projects.
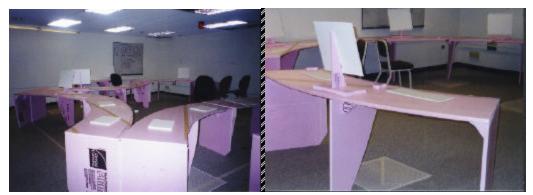

Students and faculty working in the Uris CreationStation Lab.

Professor Schwartz, with funding from the Faculty Innovation in Teaching Grants Program, has conducted research on cooperative-learning computer labs and has designed computer furniture that will facilitate student collaboration and cooperative learning.

Classroom Technologies has provided the campus with a philosophy for designing technology-enabled teaching classrooms and design guidelines for carrying out that philosophy. Classroom Technologies has contributed to numerous FABIT projects and other classroom design initiatives.

Full-scale models of Professor Schwartz's proposed tables.

Cornell University Library proposes to take the funds remaining from an earlier FABIT grant to the Library for the development of advanced computing resources in Uris Library and combine them with funds from Professor Schwartz's Faculty Innovation in Teaching Grant. With the combined funding, we propose to develop in the space occupied by the current Uris Library Media Center a new teaching and learning space focused on the collaborative use of high-end computing.

The reconfigured space will serve as an environment where students working together can exploit library resources in the design and development of collaborative computing projects. An example might be students from Professor Schwartz's computer games development course. The course enrolls students from AAP and Music as well as Engineering. Assuming that the software needed for games design can be acquired, the proposed Uris Library lab would be the perfect place for the students to work together on assignments. The resources of the library would be readily at hand so that they could develop ideas for backgrounds, music, and narrative plot lines in the games.

The lab's space, structure, and resources will support eighteen students split into cooperative learning groups of two to four students. The Library will provide a student lab assistant to assist students in the use of the equipment. The lab will contain eleven computers, nine for students, one for the database assistant, and one for instructors who will be using the space. We will experiment with dual monitors that will encourage collaborative involvement. The types and arrangement of furniture will provide a flexible environment for groups to form and "roam" around to discuss and develop concepts on the computers.

The primary purpose of the proposed lab will be to test the design of collaborative computing environments. Initially one or two courses that are constructed to exploit cooperative computing techniques (such as the Academic Excellence Workshop accompanying CS100) might be taught in the space, but it is not our intention to build a formal classroom environment. Rather we hope that the development of the space might serve as a proof of concept that would then lead to the development of such spaces in formal teaching facilities, allowing the space in Uris to continue as a dedicated student lab that exploits the resources of the library system with computing resources.

In sum, the proposed space would accomplish the following:

- Foster skill development in the computational sciences through collaborative workshops.
- Provide CreationStation lab space for students and university affiliates, and staff/faculty/student teaching development.
- Serve as a model to test cooperative-learning concepts with computers.

In order to accomplish these goals, CUL proposes to take the funds remaining from Phase One of the FABIT-approved project on "Computing in Uris Library" that led to the development of enhanced computing in Uris Library in the summer of 2001 and apply the funds to this second phase. The money will primarily be spent on the hardware, software, and networking listed in the accompanying appendix as well as on some small physical improvements to the space. Funds from David Schwartz's FIT grant will be used to build the experimental furniture.

APPENDIX

Preliminary expenditure list for the proposed Collaborative Teaching and Learning Lab in Uris Library

- 8 curved tables (to be funded from FIT funds)
- 16 chairs
- Media Room readiness (painting, carpet repair)
- Moving
- Filing cabinet
- Storage cabinet
- Table & 4 chairs
- Coat rack
- 11 computers with:
    - dual monitors
    - dual keyboards
    - dual mice
    - wireless cards
    - Firewire cards
    - speakers
    - dvd burners
- Computer projector
- Plasma screen
- Net-print printer
- Color net-print printer
- Networked scanner
- Networked/shared dvd burner
- 3 digital still cameras
- 3 digital video cameras
- Wireless access point
- Gigabit LAN
- Snap server
- Software x 11
    - Premiere
    - Pagemaker
    - Photoshop
    - Dreamweaver
    - Flash
    - Office
    - 3D Studio max
    - Sound Forge
    - Endnote
- Table and two chairs for an ADA-accessible workstation