Request for Scholarship Funds For Undergraduate Research

February 10, 2010

ACRL Mission Statement

The Advanced Computing Research Lab (ACRL) is a joint project initiated by advanced Computer Science students and Computer Science faculty. Currently the lab is structured around a cluster of 20 computers donated by St. Peter's hospital. The students and faculty involved in this project have two significant goals for the ACRL. The first is to build a physical infrastructure and set of opportunities for advanced hands on learning in Computer Science that can be integrated into the curriculum. The second is to build a relationship between computer science and other departments by giving CS students the opportunity to create distributed computing software tailored to specific research applications. Utilizing modern cluster computing methods students and faculty will be able to expand their research in ways only available at larger universities. Though the increased power of distributed computing offers many new opportunities for researchers the prohibitive expense of development generally restricts distributed solutions to well-funded projects. We intend to bypass this problem by utilizing students to build small domain-specific programs that offer direct solutions to posed problems. Over time the collection of these software components will form the nucleus of a diverse library of functions that can be extended to similar domains. By establishing our lab as a site for such collaborative work we hope to redefine Computer Science at Evergreen as not just a tool to other sciences, but as an independent field of research that can both advance our work in computer science and provide meaningful support to other scientific study at Evergreen.

Project Status

The work ahead is a significant investment of time and energy on the part of the students and faculty involved. Due to time constraints placed on faculty summer offers a unique opportunity for students to work directly with instructors to create resources to their specifications. Students are also able to invest more time and energy into research and development without other coursework.

Given this opportunity to build up the set of tools, hone the skills and develop the proper documentation the ACRL will be ready to begin its outreach program in the fall. Currently 6 students are enrolled in Undergraduate Research under Sherri Shulman in an effort to build this lab, develop a network of clients and research associates, and write both distributed computing applications and software to integrate into fall curriculum. Four of these students have received the NSF Scholarship this year and all six are enrolled in 3 separate math and Computer Science courses. We will likely be bringing on another NSF recipient in the spring. In addition, there is a new internship created by Academic Computing specifically for administration of this lab.

Needs

It is our hope in applying for these funds to extend the number of students enrolled in this research project from 6 to 10 in order to solidify the state of the lab by the end of the summer. By offering summer scholarships to skilled and interested students we will be able to significantly increase our output over the course of the summer as well as allow for more faculty support. Normally the cost of summer credit is restrictive to students and financial aid is very limited during the summer. Often only paid internships and work study are available to students who do not have excess funds. Thus we would like to bring on several students who have previously received the NSF grant for summer work as an opportunity that might not be available to them otherwise. This environment will allow NSF students to further connect with each other as well as foster relationships between Computer Science and other undergraduate research groups on campus. Receiving an endorsement from the NSF grant committee will greatly benefit the ACRL's image as a center for collaborative work that bridges gaps between theory and practice. This is a unique opportunity for students. Most universities that can support a distributed computing lab would not allow students themselves to build it, nor would they have the students create the software that runs on the system. The ACRL, however, will not reach its full potential without motivated individuals to understand, document, and carry the project forward to future generations at Evergreen. As such, we are looking to fund four to eight scholarships for students over the summer. The financial requirements follow:

Budget

	In State	Out of State
Cost per credit	$155.80	$361.00
Cost of 4-8 credits	$623.20 - $1246.40	$1444.00 - $2888.00
Cost for 4-8 students	$2492.80- $4985.60	$5760.00 - $11520.00