

Contact: Jean Friedrich

IOWA STATE UNIVERSITY– EQUIPMENT PURCHASE

Action Requested: Consider approval of the equipment purchase of a C6 Virtual Reality Display System Upgrade at an estimated cost of \$3,976,752.

Executive Summary: Iowa State University requests approval to proceed with the purchase of a C6 Virtual Reality Display System Upgrade.

Description of Equipment

This purchase will provide a substantial upgrade for the C6 virtual reality display system at the Virtual Reality Applications Center (VRAC) located in the Atrium of Howe Hall. The upgrade will enhance all major functional aspects of the C6 system including projectors, screens, image generating computer cluster, tracking system, and sound system, including installation and integration. This equipment was chosen after evaluation of the needs of VRAC's diverse user community and an open, competitive bid process.

Justification of need for Equipment

Opened in June 2000, the C6 has become VRAC's core research instrument. At the time, it was the highest performance device of its kind. It attracted researchers from a wide variety of fields throughout ISU and fueled VRAC's research growth. Currently, VRAC supports the work of more than 40 faculty and 100 graduate and 80 undergraduate student researchers. VRAC's annual research expenditures are about \$3 million, and it currently administers more than \$15 million in ongoing research contracts.

In the ensuing years, computer graphics technology has been commoditized, and projector technology has evolved through at least two generations of technological improvements. As a result, the C6 is now far from the cutting edge.

This upgrade will increase the resolution (pixel density) of the C6 by 16 times, brightness by a factor of seven, and substantially improve tracking accuracy and sound quality. It will result in the world's highest resolution display device by a factor of more than two. This quality will open many more research opportunities, and the uniqueness of the C6 will enhance ISU researchers' chances for securing external support.

Any Known Alternatives to the Equipment Proposed

At the time of the original C6 construction, such devices were exotic and there was little competition. That is not the case today. Accordingly, a formal Request for Proposal process incorporating detailed functional specifications was conducted. Five bids were received at a formal sealed bid opening. All bids were then reviewed. The bid from Fakespace Systems, Inc. was selected because it provides the most technically advanced solution with respect to VRAC's functional specifications, and will allow VRAC to be a leader in the use of virtual reality technology.

Estimated Cost and Source of Funding

The Fakespace Systems bid for the C6 Virtual Reality Display System Upgrade is \$3,976,752. This project will be funded by a grant from the Air Force Office of Scientific Research.

If approved, construction will begin on April 1, 2006, with an estimated completion in six months.

Board Policy

Chapter 7.05B(12) of the Regent Policy Manual requires that:

- Equipment costing more than \$1,000,000 must be submitted to the Board for approval; and
- Requests submitted to the Board Office for approval must include the following information:
 - Description of the equipment;
 - Justification of the need for the equipment;
 - Any known alternatives to the equipment proposed; and
 - Estimated cost and source of funding.