

2016-2017 Student Technology Fee Proposal

FAMU-FSU College of Engineering

Increasing Student Engagement Through Digital Whiteboards

I. Project Description and Background

This project seeks to introduce a new level of student engagement and enhanced instructor interaction with students, through the incorporation of a Digital Whiteboard system. This pilot project will introduce this technology into one of our Distance Learning Studio Classrooms.

Background

The College has provided distance learning opportunities, both synchronous and asynchronous, for well over 20 years. In the summer of 2016, the College completed a major renovation of our distance learning facilities. The renovation gutted our existing main Distance Learning suite, and then created two expanded Distance Learning Studio Classrooms (A305 and A317). Furthermore, the College invested in new, modern technology for lecture capture, remote class interaction, etc., leading to two well-equipped Distance Learning Studio Classrooms that offer full distance learning capabilities.

These new Studio Classrooms provide multiple cameras, computer content, and multiple audio inputs (including microphones for students and instructor). These rooms can be used to originate instruction, or to receive instruction from a remote location.

Synchronous instructional delivery is provided via video conferencing systems. Asynchronous instructional delivery is effected through various means, depending on the specific needs of the students and instructor.

The Studio Classrooms are operated by a technician at an adjacent control station, where they can control cameras, direct various video inputs to various outputs, etc. Instructors also have some degree of control from the instructor console at the front of the room.

The primary use for Distance Learning at the College, is support of the FSU Panama City, Florida, campus. There are Engineering students and faculty located there, and classes are frequently taught that include students at both locations. There are other situations where our Distance Learning facilities are used, including cooperative exchanges with other universities, guest lectures, etc.

These Studio Classrooms support 8-12 classes per semester (Fall/Spring), with as many as 50 students or as few as 10 per class, depending on the subject and level.

Design Intent

In the general design of the new Studio Classrooms, there was a “placeholder” for a “new-technology” whiteboard solution. The concept was to find a tool that would support a number of new-to-us capabilities, including:

- Recordable writing/display surface for augmenting lectures;
- Easy recordable and sharable annotation of existing display content (PowerPoint slides, application output);
- Control interface integrated into the solution;
- Interface to mobile devices for display sharing and control.

We chose to delay implementation of this whiteboard solution until we had success working with the other new technologies in the room.

Opportunity

The College is in the process of developing a comprehensive Strategic Plan that will inform our decisions on the future growth and direction of our joint College. As a part of that activity, we are taking a very serious look at new teaching/learning technologies and how these technologies might be incorporated into our curriculum and pedagogy.

Related to this is a new focus on teaching methods for engineering education, and a major intent to both develop new methods and incorporate new methods developed at other institutions.

The existing technology in our Distance Learning Studio Classrooms will provide a strong platform for this exploration, and we have faculty who plan to use these facilities to evaluate new delivery methods and teaching techniques. The addition of a “new-technology” whiteboard solution will enhance the opportunities available and augment our efforts to introduce new methods and enhanced classroom interactions.

Proposed Project

With this proposal, we seek funding to incorporate a Digital Whiteboard into Distance Learning Studio Classroom A305.

II. Impact of Project on Instruction

The addition of this Digital Whiteboard system will provide the opportunity for several enhancements to the teaching/learning process:

- Recordable writing/display surface for augmenting lectures –

Instructors will be able to use the Digital Whiteboard to display prepared content to the class, and then write notations over the content, thus combining the best features of a projection screen and a standard marker board.

- Easy recordable and sharable annotation of existing display content (PowerPoint slides, application output) –
The Digital Whiteboard will interface well with existing distribution and recording technology in the Studio Classroom. Thus, the content will be readily accessible to students participating remotely and/or asynchronously.
- Control interface integrated into the solution –
Instructors will be able to navigate and control their content presentation from the board, rather than moving back and forth between the board and instructor console.
- Interface to mobile devices for display sharing and control –
The Digital Whiteboard can also share display content with other devices, allowing students to interact with the class from their seats. This interaction includes screen sharing, interactive annotation, and control.

The College believes that these technology enhancements will open the door for new instructional techniques that will significantly improve the quality of engineering instruction. According to Dr. Kamal Tawfiq, Chair of Civil and Environmental Engineering at the College:

“There is a solid evidence that the use of technology in classrooms improves academic gains. Additionally, using technology in our classrooms will prompt faculty to implement more advanced teaching methods and to become more innovative in developing new methods.

Therefore, changes are needed in our classrooms’ environment to successfully work with technology. Also, besides academic improvement, there is the opportunity to engage the student more fully, expose them to technology used in the workplace and get immediate feedback of classroom knowledge.

Today, most of our students are rapidly becoming more and more acquainted to the use of new technology. Smart and wireless devices, cameras, remotes, and many software applications are all common technologies that result in more engaging learning for students and adaptation to a variety of learning styles. I have students coming to my office with their smart phones and tablets to show me what I lectured in the classroom or what they found of additional knowledge on cyberspace.

Adding more user friendly technology in our classrooms is considered as the first step toward creating what is currently known as “smart classrooms.” A smart classroom consists of one or more physical and virtual space that involves learning stakeholders and the learning ecosystem in an interactive and collaborative ways.”

Dr. Tawfiq has been in the forefront of identifying and evaluating new instructional technologies, and will be instrumental, both in his own classes and in working with other instructors, in incorporating new technologies, such as the Digital Whiteboard, into the College’s instruction.

III. Project Plan

The College of Engineering, through its Communications and Multimedia Services (CMS) unit, will acquire the Digital Whiteboard, once funding is available. CMS will prepare the components for installation. Physical installation will be arranged with our Facilities Coordinator. Changes to the existing audio/video switching environment will be completed in time for testing in late Summer. Faculty that will be using the room will be offered training on the equipment, and will be encouraged to share ideas and techniques throughout the first semester of use.

IV. Relationship of This Project to Other University Activities

This project does provide specific support to engineering students at the Panama City, Florida, campus.

V. Plan for Ongoing Support

Support for the Digital Whiteboard will be provided by CMS. Ongoing support costs will be covered within the existing support budget.

I. Project Team

The project will be led by Gary Eggebraaten, Director, CMS. The CMS staff will perform the associated integration and installation duties.

VII. Budget

The project budget is as follows:

\$9,283	Digital Whiteboard System (B&H - see attached)
\$213	Wall mount for Digital Whiteboard (B&H)
\$1,454	Computer for System Operation (Dell - see attached)
\$200	Miscellaneous items (cable, hardware, etc.)
=====	=====
\$11,150	TOTAL BUDGET

Digital Whiteboard

From SpearMart:

12/6/2016

Sharp PN-L803C 80" Class AQUOS BOARD Interactive PN-L803C



The Professional's Source Since 1973

420 9th Ave., at 34th St. In New York City
www.bhphotovideo.com

Sales: 212.444.6615
Customer Service: 212.239.7765



SHPNL803C

SHARP.

Sharp PN-L803C 80" Class AQUOS BOARD Interactive Display System

BMH # SHPNL803C MFR # PN-L803C

Availability: Special Order



List Price: \$14,795.00
You Save: \$5,512.40 (37%)
\$0.00 Tax Collected Outside NY
You Pay: **\$9,282.60**

Quick Compare

What's in the Box

Sharp PN-L803C 80" Class AQUOS BOARD Interactive Display System
AQUOS BOARD PN-L803C Touchscreen LCD Monitor
2 x Wireless Touch Pen
3 Year Limited Warranty

Overview

Provided by third party:

Sharp's 80" Class (80" diagonal) PN-L803C AQUOS BOARD™ Interactive display system with capacitive multi-touch technology is so intuitive and responsive that it feels like you are writing on a conventional whiteboard. The PN-L803C display revolutionizes the way you collaborate with colleagues or classmates. It allow you to display and freely annotate a huge variety of documents, with up to four people able to write onscreen at the same time. Now, whether in the boardroom or the classroom, you can share your message with more precision than ever.

Specs

Technical Information

Screen Size	80"
Screen Mode	Full HD
Response Time	4 ms
Aspect Ratio	16:9
Backlight Technology	LED

Video

Maximum Resolution	1920 x 1080
Color Supported	1.06 Billion Colors
Contrast Ratio	4,000:1
Brightness	300 Nit

Analog Audio

Speakers	Yes
----------	-----

Touchscreen Information

Touchscreen Type	Capacitive
Multi-Touch Screen	Yes

<https://www.bhphotovideo.com/bnh/controltier/home?sessionid=kjRjYghRLPkQhPNL-1955449542?O=Search&A=details&Q=&sku=1187361&is-REG&friend...> 1/2

Computer for System Operation

We will purchase an appropriate Dell computer via SpearMart. This proposal is based on the following:

SpearMart PunchOut

OptiPlex 7040 Series Desktops

Compact without compromise.

Starting Price	\$1,875.43
Total Savings	\$656.41
Price	\$1,219.02

 Estimated Ship Date
12/12/2016

[Customize](#)

Compact desktop with more options for expandability, storage and memory. Support for triple displays.

[Overview](#) [Tech Specs](#)

Processor

Intel® Core™ i7-6700 Processor (Quad Core, 8MB, 8T, 3.4GHz, 65W)

The specific configuration may change.

The standard Campus Software Licensing Agreement fee of \$235 will be added.