The University of Tennessee at Chattanooga Student Technology Fee Funding Request

CECS Proposal No. 8

Beginning 2005-2006

Title: **PC Tablets for Design Studio**

Unit Submitting Proposal: College of Engineering and Computer Science

Summary of the Proposed Project.

Interdisciplinary engineering design is taught beginning in the freshman year and continuing through the senior year. In these design classes the students work in interdisciplinary teams and must record and share design information. Students must enter and share a variety of information including text, sketches, equations, and information from the Web. They also need to evaluate and select information entered by other team members. Faculty members need a platform to provide timely feedback to the students and track the evolution of the design. Timely sharing of information and feedback are important to enhance the student learning.

The proposed project is a purchase wireless PC Tablet computers to capture and share various design information. The implementation will include wireless tablet PC's, OneNote software, and SharePoint Services. The proposed project will enhance the ability of all engineering students to capture and share design information in its various forms. The faculty will be able to annotate documents a means of providing timely feedback to the students.

Project Goals and Objectives.

The overall goal of the project is to implement a new way for students to capture and share design information, and for faculty to track the design evolution and provide timely feedback to the students as a means of improving student learning. The objectives are:

- Implement new ways entering design information on the table PC including handwritten notes, equations, and sketching.
- Enable members of the design team to share information using OneNote.
- Enable members of the design team to share information on the Web (SharePoint Services) with the design clients.
- Improve teamwork and communication.
- Improve feedback from the instructors.

Successful implementation of the technology will benefit all engineering students beginning in the freshman year and continuing through the senior year since all engineering take the design sequence. The implementation of the system would also enhance the communication with our industrial clients and provide valuable client feedback to the students.

Method for Achieving Goals.

The first step would be to purchase the Tablet PC and Motion Pak software. The faculty will learn the software and implement the use of Tablet PC's in the Spring 2006 the design classes at the freshman, junior, and senior level. The SharePoint Services will be set up to develop a team website for sharing the

information. The tasks performed by the individuals will be shared on the team website with the clients. Students would be asked to evaluate the system. The senior students will use the current system in the first semester of the capstone design course and the Table PC's in the second semester of the course.

Task	Completion Date
Purchase a Motion Computing Motion M1400 Tablet PC	8/1/05
Learn Software on Tablet PC	9/1/05
Learn SharePoint Portal Sever and set up web site.	11/1/05
Students in freshman, junior and senior design use and evaluate Tablet PC and Software	1/15/06 – 4/1/06
Faculty will review students evaluation and look at individual contributions	1/15/06 – 4/1/06
Report and recommendations	7/1/06

Evaluation Method.

The proposed project is an improved design system to aid student learning and performance on design projects, and to capture the design information, especially the decision rationale.

The Tablet PC's will enable students to enter text, sketches, equations, and information from the Web. They will be able to share the information and post the information to a team website.

Students would be asked to compare the technology with the current method; hand sketching on paper, converting the drawings to CAD, sharing the files on Blackboard, and receiving comments at a later time from the faculty when the report is submitted.

Faculty will assess their ability to follow the students' efforts and provide timely feedback.

The students and faculty will complete a questionnaire rating the utility of the proposed system for entering information (text, sketches, equations, voice), sharing information, providing and receiving feedback, communicating with team members, faculty and clients, and tracking the design evolution.

Previous grant(s): NA

Proposed location: Describe the proposed location of the equipment, software, etc.

EMCS 406 – Design Studio

Requested Budget:

25 - MotionComputing 1400C Tablet PC's
with Motion Pak Software $2,000 ea – 15% + Shipping
Wireless network - $200
Storage cabinet – $1,000

Summary of projected costs

Equipment (hardware and software)	$ 45,000
Total project one-time costs	$ 45,000
Estimated recurring costs per year	$ 0

Identify the area(s) responsible for operating and maintaining the equipment.

CECS Technical Services

Approval by Dean or Vice Chancellor:_____

Individual responsible to complete proposal if funded:_____Ed McMahon_____

Priority established by Dean or Vice Chancellor:_____