Progress Overview and Results Report

**This one – two page form must be completed for the conference poster session and sent to
gregg.peters@hp.com by October 15, 2004.**
Please feel free to attach one other page of charts, graphs or photos.

School Name and Department: **Kansas State University**
Primary contact names and e-mail: N. Sanjay Rebello (srebello@phys.ksu.edu), Dean A. Zollman (dzollman@phys.ksu.edu)
Project Executive Summary: (125 words or less**):** Students use 40 wireless HP IPAQ Pocket PCs to communicate with the instructor and each other in a classroom. Using a web-based interface the instructor poses questions to students who think, discuss, utilize web-based resources to answer the question, and receive feedback based on their answer. The system is used in a large enrollment lecture class with over 60 students. Initial feedback from students indicates that the students like the benefits afforded by the system toward their learning process.
IMPACT ON TEACHING AND LEARNING
What fundamental problem/opportunity does this project address? Research has shown that students learn through active participation. Most large classes discourage participation. When an instructor solicits participation typically only a few students respond. Our system allows the instructor to transmit questions so that students think, discuss in small groups and respond. It keeps students actively involved, allows for student-student interaction, enhances the types of questions (textual, graphic, and video) and provides the instructor with real-time feedback about student learning.
Briefly describe the outcomes/measurements expressed in the student learning experience or success you have been able to document: *(please include specific examples, if applicable)* We have conducted an online survey of the students enrolled in the class in which classroom interaction system with HP Pocket PCs are used. A majority of students either agree or strongly agree with the following statements: *" The system is easy to use in class"* (65%); *" Responding to the questions in class by using the hand-held computers was useful to my learning"* (63%); *" Interacting with other students while discussing the questions in class to be answered on the hand-held computers was very useful to my learning."* (61%) *" After we respond to the questions, the instructor clarifies what we do not understand"* (79%). Nearly two-thirds of the students also believe that their experience with this system in the classroom has made it more likely for them to use it in their own classes when they become teachers.
What project-based keys to success, resources, or tips can you share with your peers? The following factors were critical to the success of this system in our classrooms: ■ Support from the campus information technology specialists to set up the system including wireless connectivity. ■ Support from the departmental staff for the day-to-day management and maintenance of the system. ■ Providing clear instructions to the students before they began using the system. ■ Providing support to the students in the classroom as they use the system in real-time through a teaching assistant. ■ Using the system in ways that positively benefit student learning and understanding in class.
GENERAL
How many students, faculty and course(s) have been impacted by this project? So far, we have used the system in a class taken primarily by elementary education majors. There are over 60 students enrolled in the class. The class is taught by one faculty member. A teaching assistant helps students with the use of the equipment. The P.I. for the project works with the faculty member in implementing the technology. We will expand the use of this system to other classes over the next few semesters.
Please provide a list of URL's where your work has been documented/presented: http://web.phys.ksu.edu/HP_project/