

Personal Digital Assistants - A Student Pilot Program

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Abstract

During the summer of 2002, Steve Nellis, Vice-President of Recruiting for Centex Homes (Dallas, Texas) issued a call for proposals from a number of colleges and universities offering programs in construction engineering and/or construction management. The proposal consisted of an offer from Centex Homes to provide a number of Personal Digital Assistants (m105 Palm) to select construction programs throughout the country. A limited number of m105 Palms were available. The exact number distributed to each applicant was dependent on the requested use and student interest. On average each applicant received ten (10) m105 Palms. The units were shipped on July 15, 2002, in time for the start of the 2002 Fall Semester. The Division of Construction Management and Engineering (CME) at NDSU applied for, and received, 10 PDAs. The contents of this paper: 1.) describe the Palm Education and Evaluation Program (PEEP), 2.) provide an overview of the student use of the Palm functions, 3.) give a breakdown of the learning strategies that were used by the students, and 4.) document student assessment in the form student comments.

The Proposal

The initial proposal sent to Centex Homes attempted to: 1.) formalize the PDA distribution to the students based on merit, 2.) document the student learning processes involved with PDA technologies, and 3.) evaluate and assess the overall PDA program. After receiving the PDAs from Centex Homes, the initial proposal was modified for student use (as explained later). During the 2002 Fall Semester, interested CME students in good academic standing were invited to develop a written proposal requesting that they be considered for inclusion into the "Palm Education and Evaluation Program" (PEEP). In order to receive a m105 Palm, each student had to clearly describe their individual proposed PDA learning strategies and their specific intended academic or industry applications for PDA use. Once selected, they had to

sign a written contract for the loan of the Palm, as well as, specify their intended educational objective. Two options were available: A.) research uses and applications of PDAs, specifically Palm applications that have been developed for construction management and engineering or B.) research uses and applications of PDAs, specifically Palm applications that have been developed for academic (i.e., student learning) purposes (and could possibly be adopted and used within the CME program). The students were required to attend bimonthly meetings and to submit two written reports, an interim report due at the end of the Fall Semester and a final report at the end of the Spring Semester. Based on the student response to the request for proposals, the CME Division decided to accept twelve (12) students into the PEEP program, eleven (11) undergraduate students and one (1) graduate student. The CME Division purchased an additional two m105 Palms to account for the two additional students accepted into the PEEP program. Each student was required to complete and sign the PEEP Loan Agreement, which basically established a contract between each student and the CME Division.

Palm Functions and Learning Strategies

Table 1 lists the Palm functions that were used by the students. The number in the Student Use column refers to the actual number of students that used that particular function of the Palm (the total number of students enrolled in the program was twelve).

There were four basic Palm learning strategies that were used by the students:

- A. Trial and Error: A hands on approach used by students to experiment with the Palm functions.
- B. Reference Manual –"Getting Started m100 Handheld Series" (included with the Palm m105): A quick and easy reference for using the Palm features [1].
- C. Palm Tutorial (on-line): The same information as contained in the Reference Manual but in electronic format [2].
- D. Peer to Peer: Informal group meetings of two or more students to discuss palm issues and exchange programs.

Table 2 illustrates the type of learning strategies that were employed by the students of the PEEP program. The number in the Student Use column refers to the actual number of students that used a particular learning strategy or combination of strategies. The data was collected from the Interim Reports that were due at the end of the 2002 Fall Semester. The data suggests that the predominant learning strategies were Trial and Error and Peer to Peer.

Student Comments and Observations

The following comments were extracted and summarized from the Interim Reports submitted at the end of the 2002 Fall Semester. These comments, along with the faculty assessments (due at the end of the 2003 Spring Semester), will assist with PEEP program assessment.

"To learn how to use the Palm m105 I just started playing around with it. To me it is just like a mini computer with a pen for a mouse. I decided that my learning strategies for it were going to be just to plug and play and see what I was able to do with it.

"I have found the m105 to be quite beneficial in my eyes. By using the calendar and to-do list I was able to make sure I never forgot anything. Using the Palm next semester will help out quite a bit, since I will have more projects and more group meetings in the spring."

"Having had brief opportunities to use Palm in the past, I was already familiar with its basic operation. Even though I found that the Palm was easy to operate from the start, I did have to use the manual to figure at one or two operations, especially when learning how write each characters. For the most part, the majority of knowledge came from trial and error."

"Overall I am very happy with the PEEP program. Even though I have only had it for a couple of months, I have become very dependent on it. It is much easier for me to keep track of tasks, errands, and dates. I feel that my life is much more organized."

"I no longer have to carry my calculator, notepad, and organizer as the Palm m105 serves all those purposes. Thus the PDA has helped me a lot in efficiently managing and performing my daily tasks in school during the semester. I personally feel that using PDA this semester has helped me a lot in achieving my academic goals."

"I feel that using the Palm has helped me become better organized with both school and my personal life. I tend to always know where my Palm is and usually carry it with me no matter where I go. As I have become better acquainted with the functions of the Palm, I see myself using it for most everything that I do and getting rid of using paper planners and post-it notes."

"For me this project has proven itself extremely useful in developing new ways to schedule, manage, and consolidate everyday tasks. At this point I would recommend strongly to consider it for all incoming students."

Summary

The PEEP program has attempted to document student uses and applications for personal digital assistants (Palm m105). A formal process has been initiated which, 1.) establishes a contract between the student and the CME Division, 2.) documents the functions and learning

strategies that were used by the students, and 3.) assesses the overall PEEP program. From the periodic meetings held with the students during the 2002 Fall Semester and after reviewing the interim PDA reports submitted by students, it was observed that out of the four basic learning strategies employed (A through D) that the Peer to Peer learning strategy was the most helpful.

References

[1] "Getting Started m100 Handheld Series" Palm Inc., Santa Clara, CA, 2000.

[2] <http://www.palm.com> and <http://www.palm.net>

Table 1. Palm Functions vs. Student Use

Function	Student Use
Date Book (use to plan & schedule events)	11
Address Book (store contact information)	12
Note Pad (write notes and brief documents)	8
"To Do" List (track tasks by date, category, & priority)	9
Graffiti Writing (Palm hand writing system by stylus)	7
Download Programs and Games (from Internet)	12
Wireless Transmission (Beaming Data - IR Port)	9
Hot Sync (Synchronize between Palm and Computer)	7

Table 2. Learning Strategies vs. Student Use

Learning Strategies	Student Use
A. Trial and Error (only)	1
B. Reference Manual (only)	0
C. Palm Tutorial (only)	0
D. Peer to Peer (only)	0
A & D	2
A, C, & D	8
A, B, C, & D	1