

Wireless and Handheld Devices for Language Learning

Jodi Samuels, Ph.D.
Foreign Language Technologist
L&S Learning Support Services
University of Wisconsin-Madison

Background

After receiving a grant from HP/Compaq for a Mobile Language Learning environment, L&S Learning Support Services (LSS) at the University of Wisconsin-Madison solicited proposals from faculty and instructors for innovative uses of wireless handheld technology for the teaching and learning of foreign languages and cultures. This session presents the results from three projects that were implemented during the Spring 2003 semester. The session also includes discussion of additional language-learning applications that are in development for the handhelds.

The HP/Compaq grant provided LSS with two types of handheld computers: the larger “clamshell” Jornada 728 (Figure 1) and the smaller Jornada 568 (Figure 2) [Note: Figures are not to scale]. Additional funding from the grant allowed LSS to purchase foldout Targus keyboards (Figure 3) for the Jornada 568s.



Figure 1: HP Jornada 728



Figure 2: HP Jornada 568



Figure 3: Targus Foldout Keyboard

To complement these handheld mobile devices, LSS received several wireless Access Points (APs), wireless network cards for each 728 and 568, and an HP laptop computer for instructor use. Since the objective of this grant was to create a mobile language learning environment, LSS purchased a rolling

lockable cart designed to hold and transport twelve laptop computers and repurposed it to house twenty-seven Jornada 728s in their recharger cradles, one instructor laptop, and one AP (Figure 4).



Figure 4: “728 Cart”

Instructors were required to reserve the 728 cart in advance in order to avoid scheduling conflicts. For in-class chat sessions, an LSS staff member transported the cart to the appropriate room, hooked up the AP and instructor laptop, prepared and distributed the 728s to students, and remained in the classroom to assist the instructor and to troubleshoot any problems during the chat. One recurring difficulty encountered with the 728s was instability with the chat client, CGI-IRC – during every 30-minute chat session (more than fifty sessions were conducted throughout Spring semester), at least one student lost his/her network connection, and sometimes the lost connection occurred more than once. The 728s proved more reliable, however, for standard web-based activities like Internet searches or Hot Potatoes exercises.

Towards the end of the semester, several instructors who were using the in-class chat activity experimented with the Jornada 568 and Targus foldout keyboard. The chat client for the 568, Pocket Chat, proved to be far more reliable—no student ever lost his/her network connection. These smaller units were also easier to transport—instead of a wheeled cart, instructors picked up a carrying case that held up to twenty handhelds, an equal number of keyboards, and the AP. If instructors also required a laptop and/or projector, those items were provided on a smaller mobile AV cart.

One of the concerns of instructors in using the smaller Jornada 568 was the expectation of less screen space for the chat, given the smaller screen size of the 568 in contrast to the 728. What we all discovered, however, was that the number of lines of text that appears on the 568 screen is equal to if not more than the number of exchanges that can be viewed on the 728. In addition, students greatly preferred the larger foldout keyboards to the 568s to the smaller built-in keyboard of the 728s and found that entering accented characters was far more efficient in this set-up as well. Future chat activities will therefore be conducted on the 568s or iPaq (received as part of an extension grant from HP/Compaq).

Aside from the very popular chat sessions, which expanded beyond the original projects into other classes as word spread of their popularity and success in motivating students to produce both quantity and quality in the target language, other projects that used the mobile handheld devices made use of their portability to integrate web-based activities. Several instructors created web pages specifically for in-class activities

with photographs or images, and projects involving short video clips viewed over the wireless network on the handhelds are under development for the Fall semester.

Projects

Project #1: Peggy Hager, Scandinavian Studies, Norwegian 102 – 2nd Semester Norwegian

To encourage communication in the classroom, Peggy created a group of activities consisting of scanned pictures that students could access online and discuss in small groups. Peggy took advantage of the mobility of the Jornada 728s to create five-ten minute review exercises for her students to drill grammar and vocabulary with Hot Potatoes exercises. Students could access these same activities from home or in other places on campus via the University's wireless network, so that their language learning could continue outside of the classroom.

Some of the difficulties Peggy encountered included sizing images to fit the small screen space of the Jornada 728, inconsistent or troublesome network connections, and incompatibility between WebCT and Hot Potatoes. Despite these minor problems, using the mobile handheld devices allowed Peggy to integrate short technology-based activities into her class session without requiring her to move her class to a lab or to devote the entire class hour to technology. She could assure that her students understood vocabulary or grammar and that they were exposed to authentic Norwegian materials thanks to her guided web activities.

Towards the end of the semester, Peggy experimented with the Jornada 568s and foldout keyboards for a chat session with her class. With a small class, Peggy conducted a group chat that included all of her students. Thanks to the input capabilities of the 568s and their Targus keyboards, students could type their entire text in Norwegian, including the necessary diacritical marks for accented characters.

Peggy plans to extend these projects in the Fall in her 1st semester Norwegian class, using the Jornada 568s or new Compaq iPaq. She also plans to explore the ways in which Desire 2 Learn, the new UW Course Management System, can be integrated into her class and used with the mobile handheld devices.

Project #2: Laurey Martin-Berg, French & Italian, French 102 – 2nd Semester French

A once-per-semester chat activity in an LSS multimedia lab had been highly successful because it allowed students to engage in open-ended communication about more complex ideas than they could handle in oral discussion. However, scheduling restrictions of a shared media lab prevented instructors from engaging in additional sessions. Laurey used the HP Jornada 728s to expand this activity over the course of the semester in order to build on the success of the chat sessions.

French 102 is a multi-section course, with six different class sections, each taught by a different graduate Teaching Assistant (TA). The chat activities were implemented across the entire course and were conducted six times throughout the semester, always on the day preceding a unit exam. Students were divided into five to six small groups of four to five students, and the TA logged into each chat room in order to monitor all of the groups.

Chats were implemented in several formats – with small groups that engaged in an oral large-group discussion after the online chat, with four groups which discussed opposing sides of an issue and then combined to form new groups to debate their opponents, or with small groups that joined to form one large group to attempt a full-class online chat. The first format was the most successful, as it limited the number of people in a single chat room, allowed everyone sufficient opportunity to participate, and facilitated the process of following a single thread throughout the chat.

Copyright 2005 The Board of Regents of the University of Wisconsin System.
Duplication or redistribution prohibited without written permission of the author(s)
and The Annual Conference on Distance Teaching and Learning

<http://www.uwex.edu/disted/conference/>

Laurey plans to continue this chat activity in French 102 in future semesters, but will likely switch to using the Jornada 568s/iPaqs since their chat client is more reliable and they offer the larger foldout keyboard.

Project #3: Mary McHugh, Classics, Latin 204 – Introduction to Latin Literature

This course focuses on close literary analysis of the structure, style and language of several Roman poets and prose writers. One of the components of this course is to teach scansion of Latin poetry – specifically, marking whether vowels are short or long. Mary’s project involved creating digital versions of several poems that could be scanned in class electronically with the Jornada 728s. Students in the two sections of Latin 204 accessed the text of a poem via the course web site. The poem appeared initially with no vowel markings, and students clicked on each vowel to toggle between the diacritical marks for long vowels (a superscript macron, “–”) and short vowels (a superscript brevis, “˘”). Eventually, once students had finished scanning the poem, they submitted their work electronically to their instructor.

A challenge of teaching scansion is that Latin is not longer a spoken language, so students are not able to hear examples of poetry readings that could help to indicate the appropriate scansion. To help mitigate this lack of materials, Mary enlisted a colleague from the Classics Department, Professor Jim McKeown, to record several of Ovid’s poems. Students could then listen to these recordings as they followed along with the written text.

Several obstacles were encountered during the development and implementation of this project: (1) since the Jornada 728s do not have as robust a processor as a regular computer, they tended to be a bit slow when students clicked on the vowels to activate the toggle feature; (2) because of font limitations, it was impossible to put any diacriticals on a “y,” which is considered a vowel in Latin; (3) diphthongs could not be marked as a unit; and (4) our first attempt to submit scanned poems demonstrated that the Jornada 728s were not natively able to transmit the diacritical marks – the instructors received submissions whose mark-up had been completely stripped. We solved the latter problem with additional program modifications, and when students did the same activity in a lab equipped with laptops, the lack of speed – problematic on the 728s – was no longer an issue. The font limitations, however, are still being addressed. In addition, to create the electronic text that could be scanned in this fashion required an LSS staff member to code each poem. We are developing a template that, in the future, will allow instructors to cut and paste text into an application that will then create the coding necessary to generate the toggle feature. This step is necessary for replicability and transferability, not to mention efficiency.

New Applications

While getting acquainted with the HP handheld wireless devices, LSS Staff discovered that several applications necessary for language teaching and learning were nonexistent for the Jornada 728 and 568 operating systems. LSS has hired highly-skilled student programmers to develop and test an IME for foreign character input and an audio player/recorder to replicate the functionalities of a brick-and-mortar language lab so that students can complete their foreign language oral practice assignments at a distance. When we received the iPaqs as part of the extension grant and purchased their foldout keyboards, we discovered that the foreign character input via the keyboard is incomplete and unsatisfactory, so this is an additional programming challenge that we are working to solve. We plan to have the audio player/recorder ready for implementation in Fall 2003 and hope to have the foreign character input problems resolved shortly thereafter.

Biographical Sketches

Jodi Samuels, Foreign Language Technologist in Learning Support Services at UW-Madison, earned her Ph.D. in French Literature (UW-Madison), MA in French (Middlebury College), and BA in French and Theatre (Wesleyan University). In addition to her full-time position, Jodi manages Francine Conley (poet/performance artist) and Le Théâtre de la Chandelle Verte (educational theatre troupe that performs plays in French), teaches at Kaplan Test Prep, serves as Treasurer for the Gay Lesbian Straight Education Network of South Central Wisconsin (GLSEN-SCW), and volunteers for Planned Parenthood. Originally from near Boston, she remains a diehard Red Sox fan and true New Englander at heart.

Address: L&S Learning Support Services
279 Van Hise Hall
1220 Linden Drive
UW-Madison; Madison, WI 53706

E-mail: jodi@lss.wisc.edu

Phone: 608.262.4965

Fax: 608.262.7579