

Figure 2. Sample page that shows a user's profile.

Knowledge LINK
[WIRELESS KNOWLEDGE COMMUNITY INTRANET@AWB]

PERSONAL progress

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[View & Update Your Profile](#)

Knowledge Challenge	Pass/Fail	Times Taken	Average Score	Score Range Low/High
PocketNet: T250	Pass	2	75.5%	71% / 80%
Strategic Direction	Pass	2	93%	88% / 100%
Overall Progress		4	84.25%	79.5% / 93%

- The left pane of the page includes a table of contents that lets users jump to any section or subsection in the document.
- Pop-ups present definitions and supplemental information.
- VCR-like controls run the streaming audio.

These interaction techniques are standard for many learning sites. There are three aspects of the site that are more unusual, though: our use of streaming audio, the fact that the site can be accessed wirelessly, and a template we have developed that allows some information to be posted without requiring HTML coding.

Streaming Audio

One of the philosophies that has guided our development is to keep the site simple. The site does not use technologies such as Macromedia Flash and streaming video that increase bandwidth requirements, require users to download plug-ins, and increase coding time. These technologies definitely enhance a site, and many Web users have broadband connections and do not mind downloading plug-ins. Some users resist plug-ins, however, and will not complete the training if they have to use them. Our goal is to reach out effectively to our entire audience with the training, so we choose not to enrich the experience for one group of users at the cost of excluding others.

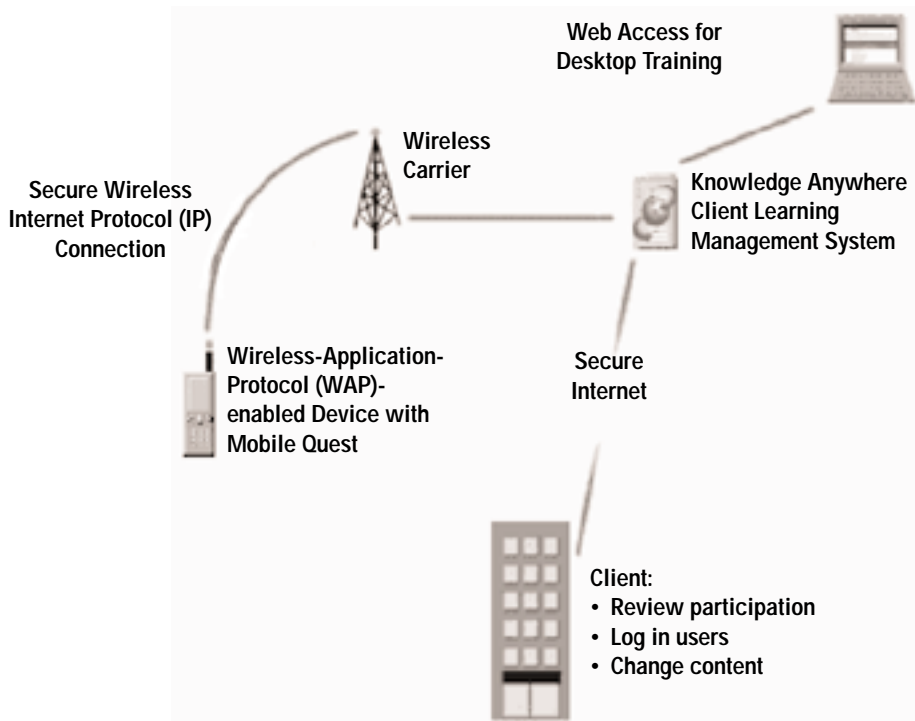
The site includes prerecorded streaming audio, however. Streaming audio plays well over connections as slow as 28.8, and most Web users already have the Microsoft Media Player (our streaming media technology of choice), as it is included with Microsoft Internet Explorer.

Streaming audio is an easy way to add multimedia interactivity to a site, and it is useful in three ways:

- Streaming audio is an alternate channel for presenting content. Summaries (read by a narrator from a prepared script) can be added at the end of a section, reiterating key points from that section and increasing the chance that users will retain information. In fact, some users multitask by playing the audio as they read email or do other things. We are always careful not to present any new information using streaming audio, so that users who do not have a sound card or the Microsoft Media Player will not miss any content. The streaming audio is always supplemental.
- Streaming audio allows us to personalize the site by using learners' co-workers as narrators. For example, the vice president of sales may introduce a module, or a sales representative might share a success story. This is a great way for management to get a message out and for employees who have experienced a success to share it with others. It also draws the learners into the site, because it features their co-workers and friends. There is one caveat, though: If a worker on an audio leaves the organization, that workers' sound bite should go as well.
- Streaming audio allows us to personalize the site in another way—by having a narrator tell a fictional story. Sometimes the narrator plays the role of a customer who speaks about using the product or the role of a sales representative who speaks about selling it. In either case, the narrator tells a story that reinforces the points made in the training.

It is possible to record a streaming audio in a studio, although it is not necessary to do so. We simply use a digital audiotape (DAT) recorder and mixer. We also use a portable DAT recorder, which frees us to do the taping at the customer's site if necessary. The portable DAT recorder provides fine sound quality, although it is important to ensure that there is no background noise at the customers' site, such as ventilation fans or traffic. Once the tapes are recorded, we edit them to create a seamless sound bite out of the different takes that were recorded. We also remove any pauses, ums, or ahs. We convert them to Windows Media format (an .asf file), audio codec 2, set for 28.8 KBPS or above.

Figure 4. How Mobile Quest works.



Templates for Frequently Updated Content

The site also includes a module for sales representatives' success stories. A success story is simply a brief description of a successful sale. By posting these successes, we are able to share tips and techniques that helped the sale to succeed, generate enthusiasm in the salesforce, and publicly credit people who were instrumental in the success.

For each success story, we gather the following information:

- customer name
- account manager
- account manager's phone number
- account manager's email
- business problem solved for the customer
- profile of the user group
- how the opportunity surfaced
- which group or person championed the sales
- tools and resources used to close the sale
- obstacle that surfaced and was resolved.

Because we are gathering the same information for each story, we were able to develop a template that automatically posts the content to this module. The site administrator goes to a special URL and inputs the information into a form. With the click of a button, the information is published to the success stories module. We also automatically post a sound bite recorded using the iTalk service.

This template is made possible by the highly standardized information presented in the success stories module. The template saves a lot of time because it eliminates the entire step of HTML coding.

We are looking to make greater use of templates in the future. Currently, coding costs make up a good portion of the total cost of a module. While it is often necessary to custom code HTML to get the results we want, we could realize substantial cost savings (when updating sites as well as creating them) by moving to templates whenever possible. It is necessary to pay for the development of the template up front, of course; but once that is done, site production costs will be reduced.

The Learning Management System

Site managers and administrators have access to the same information, via the site's administration site. The administration site also provides a variety of reporting options that allow managers to home in on the information they need, a necessity given that the site now has over 2,200 users. A manager can easily run a report that shows which modules the members of a team have completed. Figure 5 shows the administration site.

The administration site is linked to a Microsoft Sequel Server database that tracks the site's users, their passwords, their contact information, and their quiz scores. As the site has grown, a control structure has become necessary. We are in the process of developing one.

Evaluation

We evaluate the success of the site in several ways. Because we are consultants, the most immediate measure of success is AT&T Wireless's direct feedback.

Each course concludes with a feedback form. Users are asked whether they can accomplish the training objectives outlined at the beginning of the course, and are asked to rate the content, presentation, and value of the course. They are also asked several open-ended questions about the strengths and weaknesses of the training. This feedback is captured in the database and is also sent in real time via email to the project manager. Figure 6 shows the feedback form.