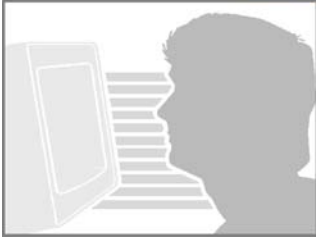


Usability Interface



The Newsletter of the STC Usability SIG

January 2004

Volume 10, Issue 3

Defining an Effective Electronic Performance Support System

By Sam Racine, Kristen E. Kralick, and Sathya Yesuraja

Are your products, services, and technology changing too fast for your customers and employees to keep up with? Are traditional training approaches adequate and cost-effective?

Most businesses have seen a dramatic increase in the amount of information employees require to perform tasks. Traditional approaches to training such as paper documentation, instructor-led training, or computer-based training (CBT) may have been effective in the past, but are not suitable to respond to the rapid changes in time, cost, and delivery of information today's marketplace requires. At Unisys Corporation, we have piloted an electronic performance support system that provides self-instruction for our clients at their point of need. This system, which supports a commercial freight management application for airlines, combines multiple forms of user assistance into one comprehensive system that delivers situation-specific information on demand. It provides an effective, cost-saving augmentation to traditional classroom training.

Unisys Logistics Management System (LMS) – Enterprise Services (ES), is a thin client, web-based application used by shippers and freight forwarders worldwide to access timely and accurate information about their shipments. They use the application to check rates, make bookings, track shipments, manage terminals, and control customs, all through the Internet. Access to this data allows our clients to reinforce the unique value they provide, save costs, and offer services that extend across partners.

Challenges facing our users

Most of our clients are airlines, who operate on a tight budget with high employee turnover and with freight stations distributed across the world. These demands make traditional training methods as paper documentation and instructor-led courses expensive and inefficient: high turnover means we must support both novice and experienced users simultaneously and because of the cost to distribute material worldwide, clients want the support system contained within the application itself. Furthermore, airlines are heavily influenced by national, international, and industrial governing bodies who use a codified method of communication: terms like “SLULD” can be unfathomable to new users. Supplemental information is provided in long lists that need to be searched or printed. And because operations vary by airline, we need to provide our clients the opportunity to include their own information in user assistance.

ES is a complex large application, over 150 web pages, so we needed to provide navigational support. For example, we found that users knew the task they wanted to complete, but were not always sure how to navigate to the page where that task could be done. Many of the pages contain specialized features unique to freight management so we needed a clear way to identify features and inform users how to operate them.

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Meeting User Challenges

To meet these challenges, we designed an electronic performance support system, or EPSS. EPSS is an electronic system that directly supports a worker's performance when, how, and where the support is needed with minimal external intervention (Raybould). Integrated components include tips, coaching, built-in wizards, tutorials, and online help (Gerry). Successful integration of the components provides task-specific support to users based on their immediate need and simplifies their work process. These components then allow users to increase their performance levels, which results in higher productivity and quality of work. Information delivery through EPSS is current, consistent, and employees can use it as needed.

Unisys combined several components to meet the needs of our clients. To accommodate new-hires, our technical writers created demos on how to complete common tasks in the application. Demos show cursor movements and include written instructions to guide the user through a task. Rollover help provides more information on specific items within the application, including item description and instructions for use, limited to 120 characters per item. Rollovers automatically appear when the cursor hovers over every item on the application page. In this manner, users do not need to leave the page to find help. Expert users have the ability to turn off the rollover feature if they find it distracting. Figure 1 shows the rollover text for the "Routing" data input field. Note that the rollover appears below and to the right of the field as not to obscure the field itself.

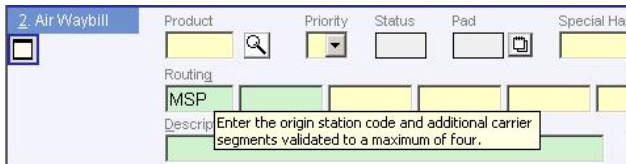


Figure 1: Rollover Text

We minimized both domain knowledge and information needed to operate the application by linking related tasks together with context menus.

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When a user right-clicks on an application page, a context menu appears which lists all related application pages relevant to their current task. The user can then click the page he/she wants to display. Users no longer have to search long drop-down menus for a page they need or guess at a potential next step in their workflow. We embed as much help as possible into the application, despite a shortage of real estate.

Where possible, we added instructional text and warnings such as, “Click the table headings to sort” or “changes are not yet saved.” Figure 2 shows the shortcut menu for a selected container (container T4321 is selected from the list) and the use of embedded help in italics. In addition, we customize standard host-provided error messages to provide a more meaningful response.

The online help tool we use has the capability to create conditional text for our users. We include customer-specific information where they want it within the help file.

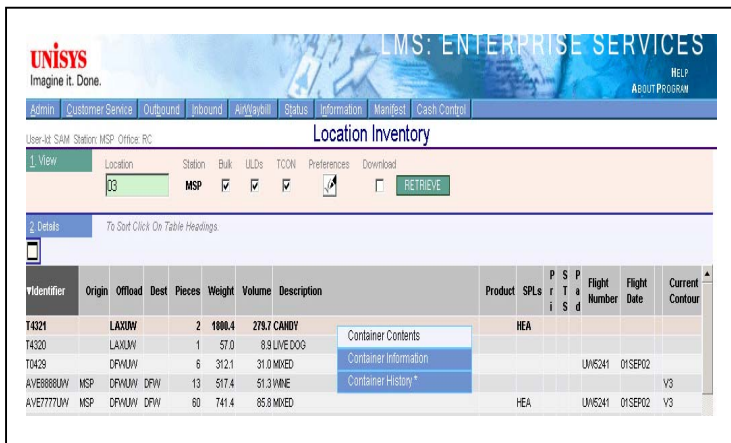


Figure 2: Shortcut Menus and Embedded Help

In addition to providing assistance, these unique customizations brand a customer’s version as its own. Unisys has also collaborated with industrial governing bodies to add industry-specific rules for international operations as well. Within our application there are many messages and parameters that users need to reference. These lists are long and cumbersome and therefore don’t fit the standard type of information to use in a help topic. We created PDF files for these lists so customers can search and print what they need.

To accommodate the various skill levels of our clients, we created different types of help. For our more novice users, we created a section that contains step-by-step instructions called, “How Do I” to guide them through tasks. For both beginners and more experienced users, we have created a section called “Page Details.” These Page Details display detailed information about every item on the application web pages. For experts, we have provided a high domain knowledge section called “Processing.” This section displays detailed information about the processing of a function.

Our clients have responded favorably to our EPSS. Reports on our initial release show anecdotally that clients are pleased and users make use of the features we offer. Indeed, clients are so pleased with the premise and foundation of our EPSS that they have initiated refinements, which we have incorporated. For our next iteration, we plan a systemic assessment of the EPSS to quantify the benefits it provides to our clients.

Gery, Gloria. 1991. *Electronic performance support systems: How and why to remake the workplace through the strategic application of technology*. Cambridge, MA: Ziff Communications.

Raybould, Barry. 1996. “What is an electronic performance support system?” Reprinted from *Technical and skills training (February – March)*. www.pcd-innovations.com/key_concepts.htm

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Contribute to the April issue of Usability Interface

Usability Interface is accepting original articles and case studies, anecdotes, cartoons, and book reviews on Content Management Systems and Performance Management Systems.

The deadline for submitting articles is 30 March. Send your articles to david.dick@swift.com.

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