

The TME Explainer Series™

Problems With Computer-Based Instruction

The educational and training market today is deluged with products which employ a variety of techniques for describing how to operate complex systems and devices. The majority of commercially available teaching systems use printed manuals with accompanying video and/or audio tapes. Computer-based training (CBT) has emerged as the most advanced method of providing information. CBT can be either entirely implemented on the computer being used, or as is typically found, in conjunction with other media.

The use of other media with CBT (such as printed manuals, audio tape, and video tape) is necessary for most computer systems for a variety of reasons. Many personal computers do not display graphics very well nor can they adequately perform animations without the additional cost of expensive memory upgrades and special boards. In other CBT systems the computer is used for information retrieval and testing purposes, abandoning the graphic interface in favor of a text-based presentation.

Computer-based training systems that rely entirely on the computer come in several types. They are broken down into the following broad categories:

On-Line Help. Typically consists of text arranged in a manner which allows for the retrieval of specific information on how to perform an operation.

The disadvantages of an on-line help system is that it cannot actually show how to perform an action, it is not interactive, it is often not easy to navigate through, and it is not often context-sensitive.

On-Line Tutorial. Provides a linear means of describing how to perform an operation. De-

pending on the complexity of the system used, the tutorial can describe the operation as a series of instructions or as graphic screens which simulate the operation.

The disadvantages of an on-line tutorial system is that it is not interactive, it is often not easy to navigate through, the descriptive sequences are linear (meaning they only go in one direction), it is not interruptible, it cannot be customized for individual use, and it usually takes a long time to complete.

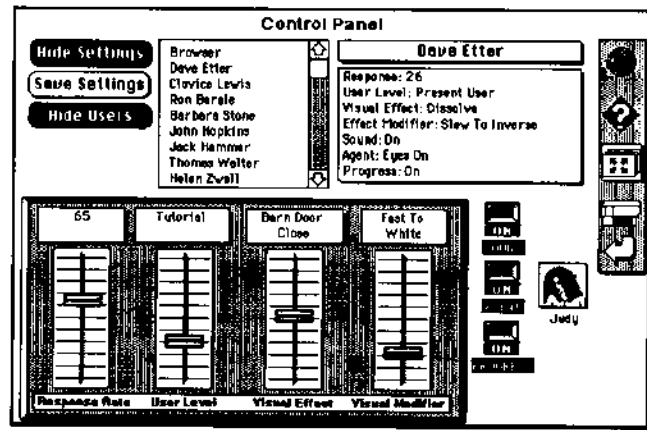
Interactive Training. The most complex CBT systems which allow for true interaction with the user. There is often a provision for testing the user, as well as allowing for different levels of instruction. The most sophisticated implementations of interactive training employ extensive graphics and animation sequences. They also have limited emulation features that simulate the entire operational range of the system being taught.

Special software called "Course Ware" has been developed on several personal computer platforms which allow for the creation of interactive training programs that are specifically tailored to the system being taught. This course ware can sometimes be coupled with video disk players, which allows for almost instant access to real-time video sequences that are keyed to the specific operation being taught.

The disadvantages of an interactive training system is that it is often not easy to navigate through, licensing arrangements for it are usually expensive, the resources needed to program the course ware are not available in-house, the courses developed are expensive to produce, and it often requires higher performance computers and additional peripheral devices than most companies can afford.

The Solution

The ideal system should possess all attributes described above ... on-line training, on-line tutorial, and interactive training. Technology Media Enterprises, Inc., has produced the ideal solution to the problems of computer based training systems. TME's *Explainer Series* provides an extremely cost-effective means of emulating the operation of other systems coupled with advanced computer-based training features. Such companies as Abaton, Mediagenic, and Lockheed have used our *Explainer Series* with astounding results. The following paragraphs describe the features of the TME solution.



Control Panel for Multi-Level Interaction

Overall Design

The Explainer Series is a set of truly interactive tutorials with the ability to be linked to other tutorials. TME has designed the series with a total systems approach. They can be linked together for use in a classroom or lab setting, to be controlled by a leader/teacher console. The following aspects are emphasized:

- Commonalty of interface
- Ease of use
- Quality of the learning environment
- Sophisticated elegance of design

Features

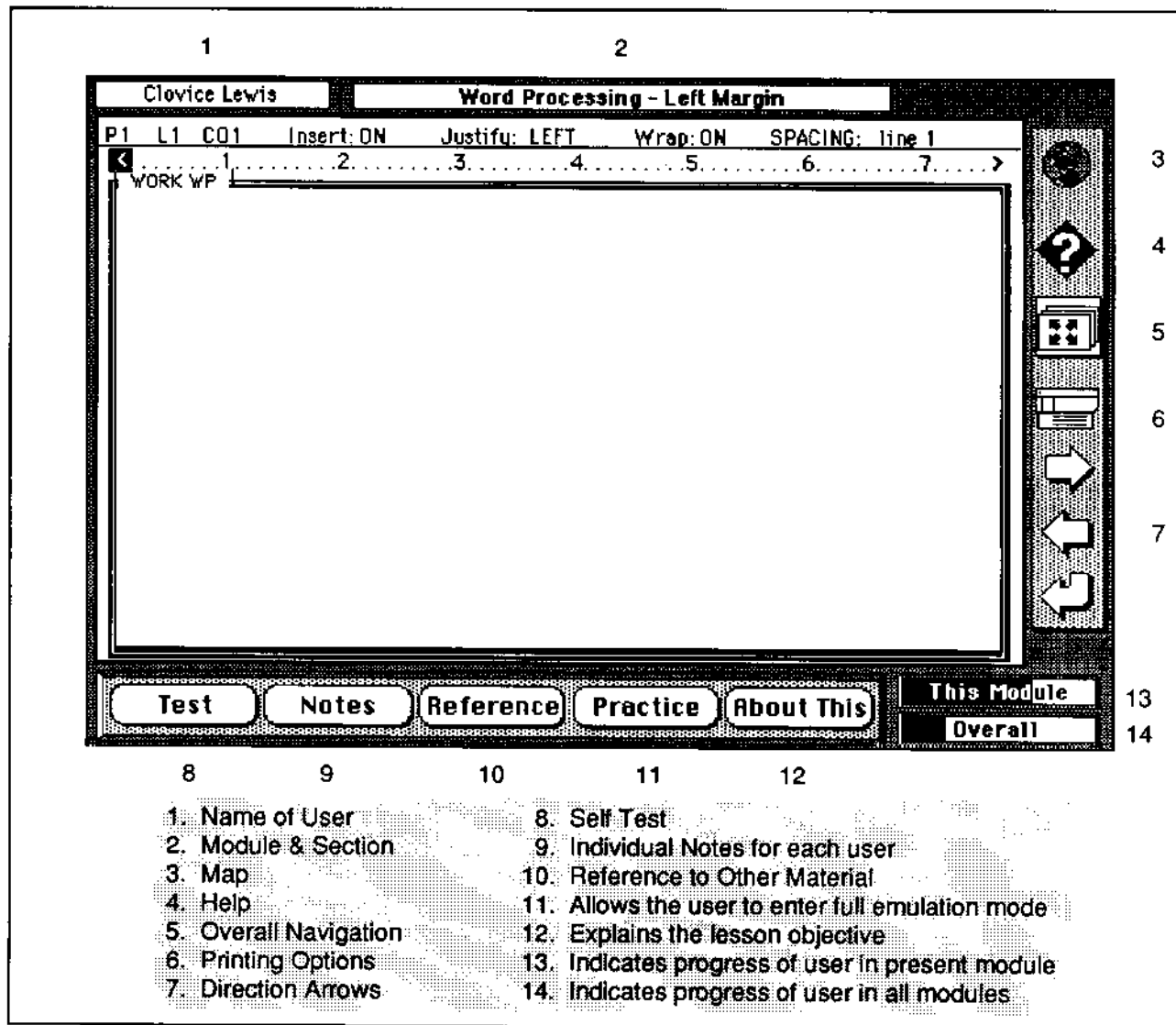
The TME *Explainer Series* features context-sensitive help, as well as true interactive emulation of the system being explained. All this is provided at a fraction of the cost of more expensive and less capable training programs. "I Heads-Up" training is our term for the fact that the user of our systems do not need to refer to the screen dump/cassette tape combination of past training systems. Features that are common to all programs developed with the *Explainer Series* are described below.

Multi-Level Interaction. A control panel common to the entire *Explainer Series* is used

for multi-level interaction. The system is initiated by user input of their name. The *Explainer* is then able to determine when the student last used the system, and where they are in each module available. Three major modes of interaction are available 1) browse, 2) information, and 3) tutorial. Other selectable options allow the user to personalize each session to his or her particular learning style. The options can be saved for future use and include setting the speed of animations, displaying a progress bar chart, the use of sound, the type of help agent to be used, and the type of visual effects to be employed between module parts.

Help Agents. Something only dreamed of by present course ware providers. Our help agents are icons that appear in key places to add emphasis or point out a particular operational tip. The agents can change their appearance, can be animated, and can even speak to the user.

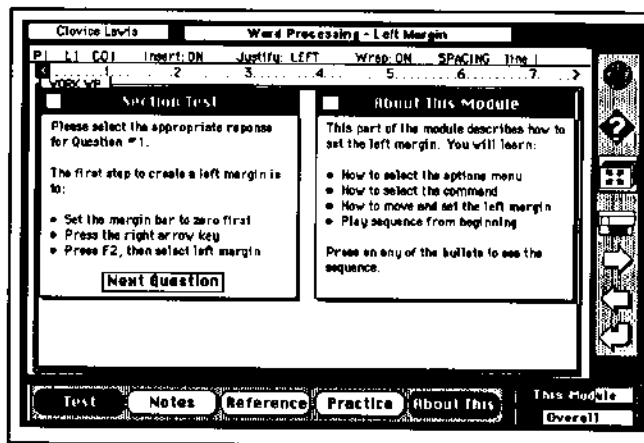
Ease of Navigation. A common interface throughout the entire TME *Explainer Series* ensures that users have an absolute minimum learning curve. The system is designed with icons that are intuitive and easy to use. A key feature of the navigational aspects are the use of a "map" screen that is accessible from any level.



The TME Explainer Series Interface

Testing/Scoring. All modules feature a level memory which allow the user to access graphic information about his or her learning progress in the form of charts. Multiple choice questions that are linked to the specific operation in a software application are available at any point in a tutorial session. The user decides when to “test out” of a module. Level denial occurs when a user attempts to leave the sequence of a preprogrammed tutorial path and skip to a higher module level.

Full Motion Animation. Real-time interaction with the user is a salient feature of the TME Explainer Series. The user is not required to



Test and Animation Selection Boxes

guess at the way software performs, nor will he need to leave a session to load the source application. Every feature of the system being explained is emulated. Full motion animation features allow the user to choose sequences, or parts of sequences for further study.

Practice. Because the system being explained is emulated, the user does not need to leave the Explainer to practice what is learned. In most cases, the emulation is realistic enough so that the user simply presses the "Practice" button and is able to perform the operation being explained!

Prompts. The user is prompted every step of the way. The amount of prompting is selectable by the user. In addition to help agents, aural clues, and pop-up notes, references to other related procedures or facts are presented to the user *in the context* of where he or she happens to be in the tutorial.

Hard Copy Printing. The contents of any field on a screen, the screen itself (including all graphics), and user notes can be printed by clicking on a print icon. In addition, the screens for entire modules are printed when that option is selected.

Explaining the Explainer

The *Explainer Series* is created using Object-Oriented Programming techniques (OOP). This offers tremendous advantages over traditional programming languages in many key areas. At the present time, three core operating systems have been emulated by TME, 1) MS-DOS, 2) UNIX, and 3) Apple Macintosh. By extending the core operating system "engines" TME is able to further emulate software that runs with these operating systems. We then create tutorials based upon the complexity of the software being emulated. This allows us to cover all three levels of computer-based training at a fraction of the cost of more traditional course ware offered

The TME Explainer Series easily lends itself to a wide variety of hardware and software combinations. Here the basic training interface is maintained for a totally different type of product. The Explainer fully emulates the program and allows the user to interact with it as if he or she is using the target system.

on the market. Our highly trained staff of programmers can write special extensions to our engines in a variety of languages to further enhance the speed and power of the programs we develop.

Because OOP is employed, we can have working prototypes of the Explainer Series version of your company's software products within *weeks* of beginning - not months or years. Our ability to rapidly change designs means that you get more power and flexibility in the final training product ... and your training and technical support budgets shrink significantly. In addition,

training packages developed for your system can be easily modified to provide automatic, self-running sales and marketing demonstrations that can be produced on a wide variety of computer platforms.

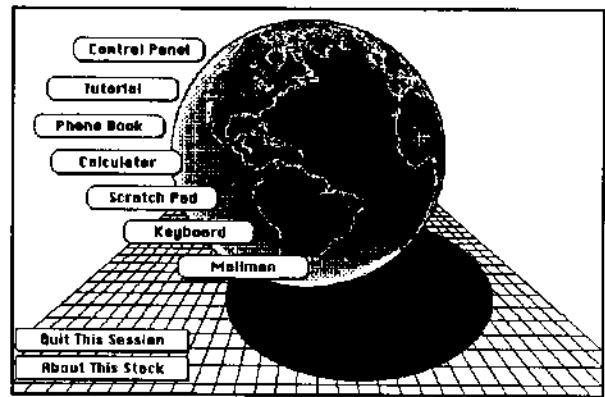
At this time the *Explainer Series* will run as a stand-alone application on the Apple Macintosh, and on IBM computers in the Windows environment.

How to Create Your Own Explainer

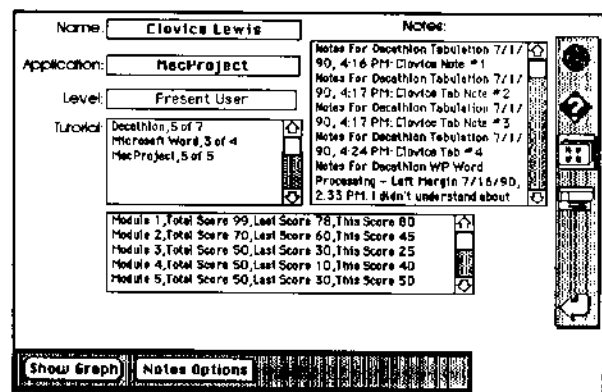
To see a demonstration of the TME *Explainer Series* or to contact us about how to order the Explainer for your company's products, call or write Technology Media Enterprises at the following locations:

Clovice A. Lewis, Jr.
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(510) 656-8504

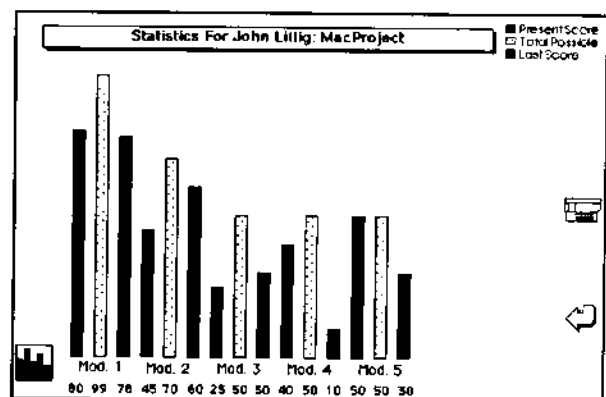
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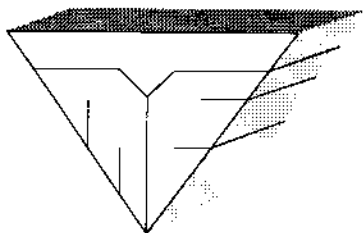
The top level "Map" is available from anywhere in a training module.



Notes can be kept by individual users of the training system. The notes can be printed or saved to a word processing program.



Bar charts can be printed for each module showing the statistics of a user's performance.



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