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A Prototype Computer Based Tutorial for the Use of Highway Patrol Radar Guns

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Recommended Citation
Grenney, William J. and Senti, Thad E., "A Prototype Computer Based Tutorial for the Use of Highway Patrol Radar Guns" (1993). *Reports*. Paper 456.
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A PROTOTYPE COMPUTER BASED TUTORIAL FOR THE USE OF HIGHWAY PATROL RADAR GUNS

BY

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REPORT FOR PROJECT MPC-004

99015

POSAT

Police Officer Standards and Training

Beta Version 1.5

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EXECUTIVE SUMMARY

The software contained in this package, termed POSAT (Police Officer Standards and Training) is the prototype knowledge-base decision support system developed specifically for the Utah State Police Academy.

All police officers must be certified annually for the use of radar guns. This self-study computer program is intended to reduce the cost of providing field training for hundreds of police officers each year. By installing the POSAT software at remote locations, police officers within a certain district need only to travel to the nearest remote testing sight to take the exam and renew their radar certification. POSAT automatically transmits the exam results to the mainframe computer located in Salt Lake City, where they can be evaluated, and notices of valid re-certification can be distributed to the officers who took the exam.

POSAT was constructed from a custom designed expert system kernel using object oriented technologies and languages (C++). The kernel is completely event driven, and operates under rule, action, and variable objects. Each of the objects derive their knowledge from either user input, or external modules that provide the knowledge automatically (via fact bases, or remote data bases). POSAT was then implemented under the Microsoft Windows operating system. As a result, the software can administer intelligent exams and context sensitive advice through the expert system kernel, as well as take advantage of the friendly interface inherent to Windows programs, multimedia support such as digitized photos, movie clips, animation, and other forms of interactive teaching methodologies that are not available in other environments.

This manual briefly describes the features in POSAT. It explains how to install the program on your computer system, and how to start and quit the program. It also includes information about the screens you will see and the appropriate responses needed to navigate the program.

This manual assumes that you are familiar with the basic terminology and procedures for using Microsoft Windows version 3.1 or later. It also assumes that you have set up the Windows operating environment on your computer system.

CHAPTER

1

6. The first field is the source directory. To accept the drive that Install proposes, press TAB.
   - or -
   If you are installing from another source, type the appropriate path in the field, and press TAB.

   If Install detects that the source drive and path are invalid, it will tell you so and give you the opportunity to correct the problem.

7. The second field is the directory name to install POSAT. To accept the path that Install proposes, press TAB to go to the next field.
   - or -
   If Install detects that the directory in the path already exists, you will be asked to enter a new directory and name. *If you do not, all contents similar to the POSAT program will be over-written.* If you have an older version of POSAT we suggest you install the new version over top of it.

8. Install will take about 1 minute to read the diskette. This time will vary depending on your computer configuration.

9. Once all the files have been installed, Install will create a Radar Applications group and a POSAT icon in the Program Manager.

10. Installation Complete! You are now ready to run POSAT!

Starting and quitting POSAT

If you are new to Windows, refer to your windows documentation and tutorials to learn the Windows fundamentals before you begin your work with POSAT.

STARTING POSAT

You can start POSAT by double clicking on the Radar Applications group, and then double clicking on the POSAT icon found inside the group. You will be presented with the Main Menu Window as discussed in Chapter 2.

QUITTING POSAT

You can stop the POSAT application by double clicking on the system menu, or single clicking on the system menu, and choosing Close.

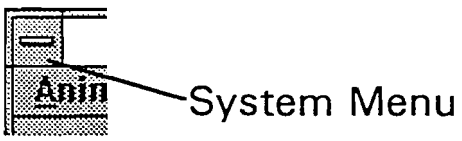

Figure 1. The System Menu found on all main application windows.

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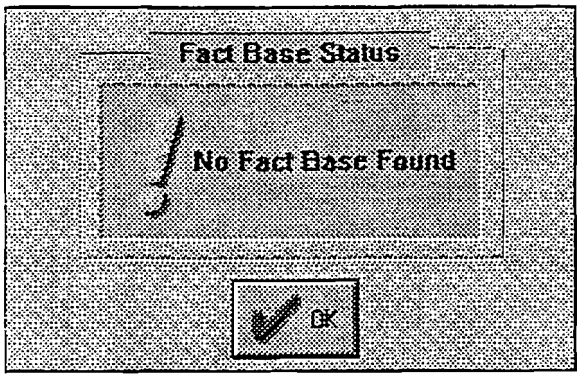

Figure 4. Fact Base warning.

Queries Begin:

When POSAT is done loading the exam, it will present you with the first question in a Query Dialog, as shown in Figure 5. The first question gives you the choice of what exam you wish to take. For this version, only the RADAR CERTIFICATION EXAM is active. Clicking on any other choice will simply start up the RADAR CERTIFICATION EXAM.

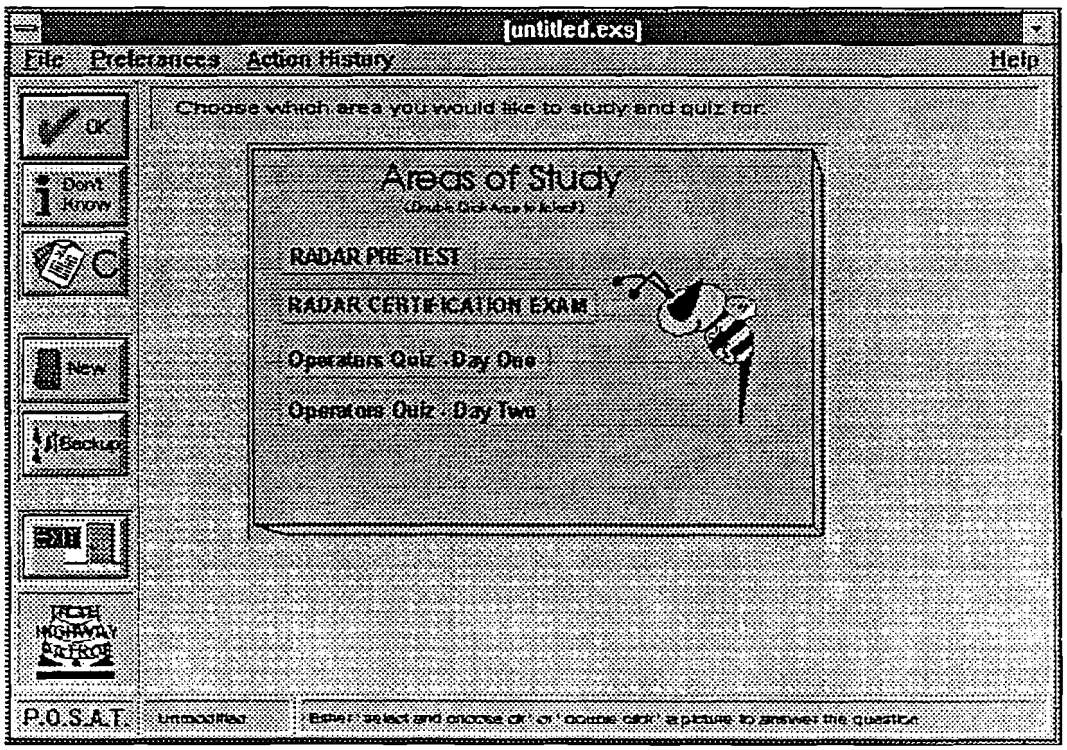

Figure 5. Example Query Dialog.

The window pictured above will change its appearance depending on what type of question is being asked. As you take the exam, you will see many different types of questions and displays.

Remember, this is a training module, so retrying the question is OK. POSAT also has a final exam module, where you only have one chance to answer, just as a real final exam would be.

When you answer a question incorrectly, POSAT will present you with the dialog pictured in Figure 7.

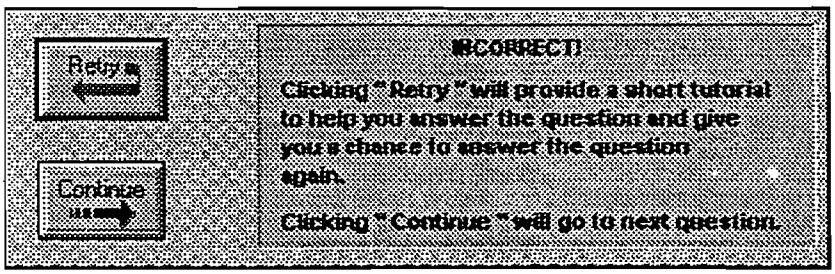

Figure 7. Dialog presented when a question is answered incorrectly.

As is explained in the dialog itself, Clicking " Retry " will provide a short tutorial to help you answer the question. When you have finished reviewing the tutorial, you will be returned to the question and given another chance to answer correctly. You are afforded as many retries as you need. However, POSAT *does* keep track of your progress, and penalizes you for incorrect answers.

Clicking on " Continue " will continue to the next question.

FYI ☞ Refer to Chapter 5 for information on the tutorial windows that appear when you chose the "Retry" option.

FYI ☞ Refer to Chapter 6 for information on how POSAT logs and scores incorrect answers.

Getting help before answering a question

Occasionally you may not be able to answer a question, or even hazard a guess, because you simply don't know how. POSAT provides you with a means to get help immediately by the simple press of a button!

By clicking on the DONT KNOW button,

, (the 'i' stands for [i]nformation), you will be presented with a tutorial window providing various types of information to help you answer the question.

FYI ☞ Refer to Chapter 5 for more information on tutorial windows.

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dynamic data exchange link (or DDE link) and will actually transmit the question, and your answer to the Word application, where it will appear in a document.

FYI ☞ Refer to Chapter 7, *CREATING A PROGRESS LOG* for a full description of this buttons function.

NEW button:

This is exactly the same as choosing the FILE | NEW menu item, and is discussed later in the chapter under *THE POSAT MENU BAR, Creating a New Session.*

BACKUP button:

If at anytime you prefer to answer a question differently, but have already passed it, you can press the BACKUP button. This will produce the dialog shown in Figure 9 asking you how many questions you would like to back up. "HOT" buttons 1 - 10, and the "Return to First Question" button are provided to save you the trouble of typing in the number into the field, although you are not restricted to backing up 1 to 10 questions. For example, if you need to back up 25 questions simply type the number into the field and click the OK button. POSAT will backup to the desired question.

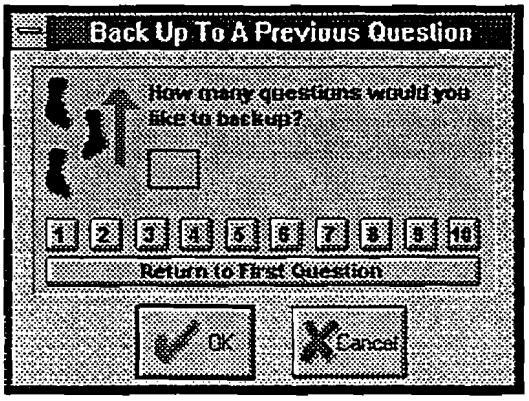
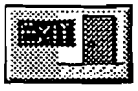


Figure 9. Backup inquiry box.

EXIT button:



2. If the current session is **modified,** but as yet **untitled**, you will presented with the dialog shown in Figure 14.

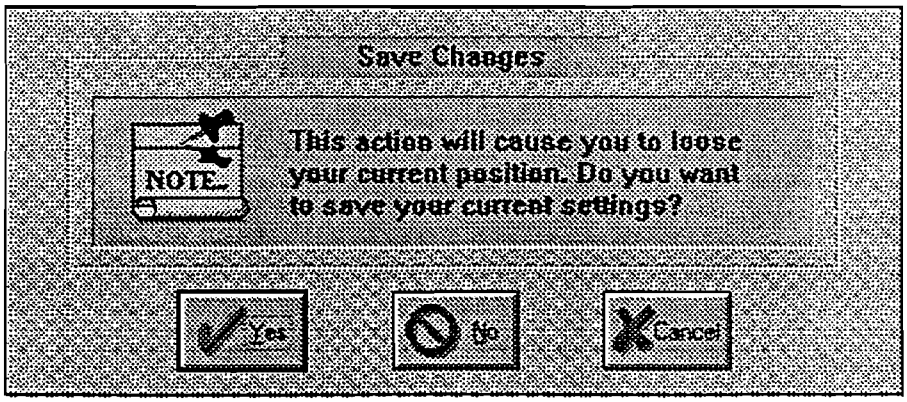


Figure 14. Save Changes Prompt.

- Clicking CANCEL will stop the open operation and you will be returned to your session.
- Clicking NO will abandon the current session, and prompt you for a session to open (see Figure 13).
- Clicking YES will first prompt you for a name to save the current session to (see Figure 12). Once the current session is saved, you will be prompted for a session to load (see Figure 13).

3. If your session is **modified,** and **already has a title,** you will be presented with the dialog in Figure 14.

   - Clicking CANCEL will stop the open operation and you will be returned to your session.
   - Clicking NO will abandon the current session, and prompt you for a session to open (see Figure 12).
   - Clicking YES will automatically save the session to the current title, and then prompt you for a session to open (see Figure 13).

Creating A New Session

At any time during a POSAT session you are unsatisfied with the way it is progressing, you can start completely over with a brand new session by clicking the "NEW" button, or choosing FILE | NEW.

When you select **FILE | NEW**, one of three things will occur:

1. If the current session is **unmodified**, the current session will be abandoned, and you will start over with a new session.

2. If the current session is **modified,** but as yet **untitled**, you will first be asked if you want to save the current session, and what to name it, and then you will start over with a new session.

THE POSAT STATUS BAR

The status bar can be found at the bottom of every exam window. It contains information regarding the current session status, and what must be done mechanically to answer the question. Figure 15 is an example of the status bar.

Figure 15. The POSAT Status Bar

The first field simply informs you that this is the POSAT exam window.

The second field will read either "Modified" or "Unmodified" depending on the current status of the session you are working under. Review the previous topic THE POSAT MENU BAR for definitions and use of this field.

The third field describes what must be done in order to answer a question. For example, for a multiple choice question it would read "Either 'select and click OK' or 'double click' a menu item to answer the question". The text help will vary depending on the type of question posed.

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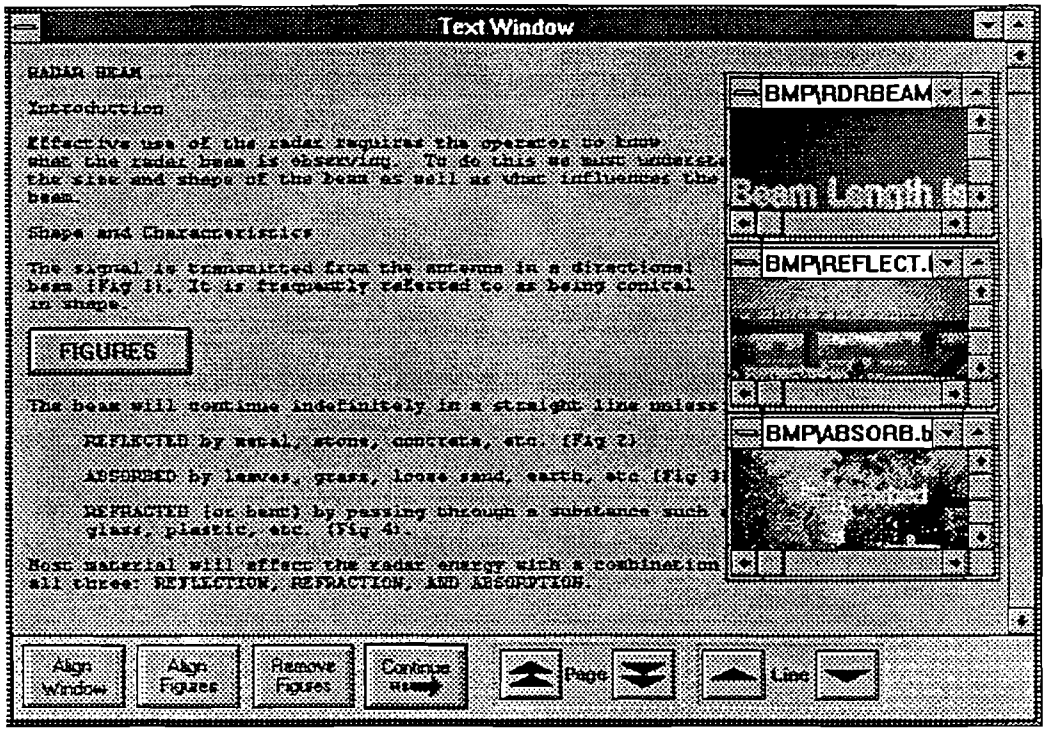
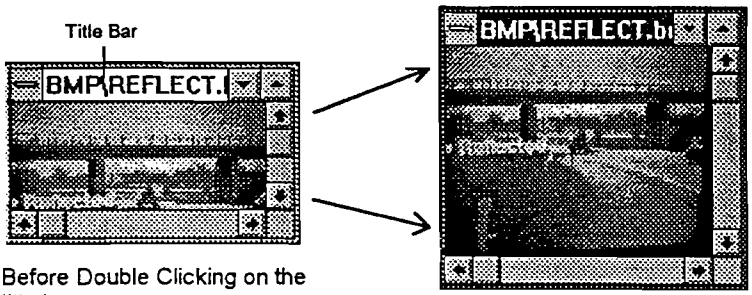


Figure 17. The same tutorial window AFTER the FIGURE button was pressed.

HOT TIP! ☞ You can quickly get mini-figure windows to size themselves to the exact size of the figure which they contain. To do this, simply double click on the title bar of the mini-figure window. It will position itself in the middle of the tutorial window and fit itself to the exact size of the figure. Double click the title bar again and it will realign itself along the right side of the tutorial window! Figure 18 shows an example of this:

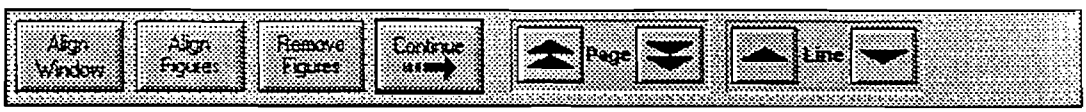


Before Double Clicking on the title bar

After Double Clicking on the title bar

Figure 18. " Sizing-Out" a mini-figure window.

The Control Bar



Use the Continue button to close the tutorial window and continue with the exam. You will not be able to continue with the exam until you close the tutorial text window.

Page Up and Page Down, Line Up and Line Down buttons:

Click on the page up and down buttons to cause the text to scroll up or down one page.

Click on the line up and down buttons to cause the text to scroll up or down one line.

TIP! ☞ In addition to using the buttons described above there are several other means by which you can control the movement of text in the tutorial window:

- **Auto Scroll.** Auto-scrolling is a handy mechanism to scroll mini-figure windows, and tutorial windows alike. Here is how you auto-scroll:

  1. Click the left mouse button anywhere inside the tutorial window and HOLD IT DOWN.

  2. Still holding the left mouse button down, DRAG the mouse pointer outside the window in the direction you wish to scroll.

     The text will start scrolling automatically! Better yet, the further you drag the mouse pointer outside the window, the faster the text scrolls! This is a great way to move figures around within mini-figure windows.

- Using the Page Up and Page Down keys on your keyboard

- Using the keyboard cursor keys to move up or down one line, and left or right five alpha characters.

- Clicking on the scroll bar buttons on the right side of the tutorial window.

- Clicking on the thumb pad on the scroll bar

- Clicking and dragging the thumb control on the scroll bar.

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NOTE! ☞ *It is important* to realize that these numbers represent the questions as if they were asked only once. In other words, even though you may have retried a question 60 times, it will only be counted as asked ONCE.
FURTHERMORE, if you answered it wrong the FIRST time, this will be how POSAT records the answer, regardless if you retried the question and got it right the second time. This is so you have an accurate idea of how you did the first time each question was asked.

If you failed to complete the exam, the Score dialog will tell you so. It will also tell you if you've passed or failed when you've completed an exam.

The SCORE Detail

Although POSAT initially shows how you faired the first time each question was asked, it also records the exact number of retries, correct and incorrect answers, and other data for each question. To view this history, click on the DETAIL button. You will be presented with an Information window as shown in Figure 20. When you see the file yourself the file contents will be self explanatory.

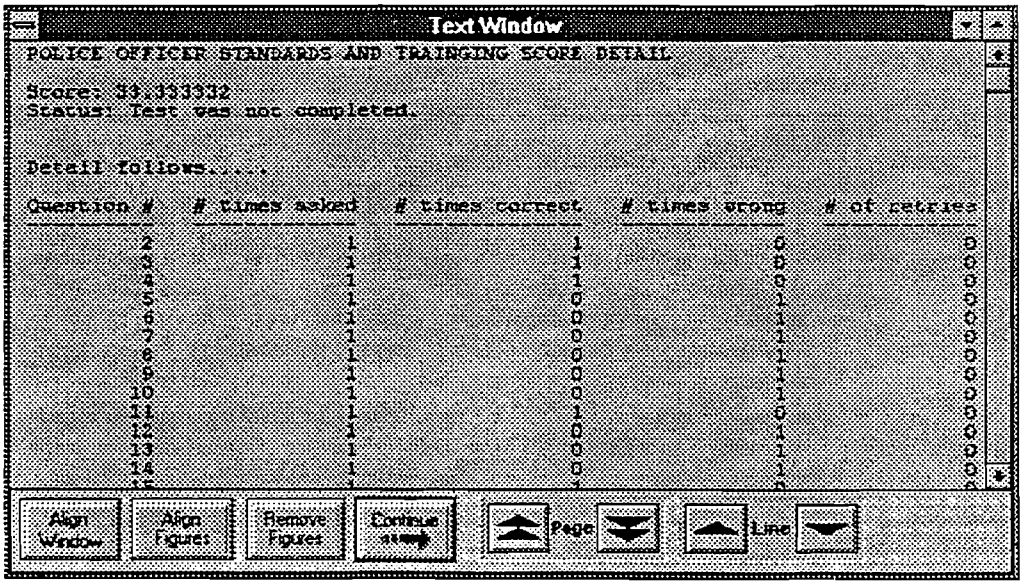

Figure 20. The Score Detail Information Window.

When you are through viewing the detail, clicking on the CONTINUE button returns you to the score dialog.

When you are through viewing your score, clicking on the CONTINUE button on the score dialog will return you to the Main Menu, where you can restart the exam if you wish.

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dialog disappear. If you click on the "Retry" button, you will need to close the tutorial window as well.

When you are brought back to the exam window, you will now notice a small button in the lower left as shown here:

By clicking on this button, you can bring the Microsoft Word application to the forefront at any time, eliminated the need for you to minimize the exam window and search for the word processor. You can then enter your comments, and continue with the next question.

That's all there is to it. You can enter as many questions, and repeat them in the log as many times as you wish.

CHAPTER

8

2) Maximize the **Paintbrush** window (button at the upper right of window),
3) From the **Paintbrush** "Edit" menu, select "Paste."

The screen image may be larger than the workspace available in **Paintbrush**. You can increase the workspace by turning off the menus at the left and bottom edges of the window: To do this, select "View" from the main menu bar. Click on "Tools and Line size" to remove the menu at the left of the window. Click on "Palette" to remove the palette at the bottom of the screen.

You can edit the image with the tools available in **Paintbrush** and save selected areas to a bit map file for use later. Or you can "Cut" a selected area to the clipboard, and transfer it immediately to your word processor.