Apple //e ProDOS 8 English Version 2.0
Written in Aztec C

Programming: Bill Buckels
Design: Bill Buckels and Ken Penner
Manual: Bill Buckels
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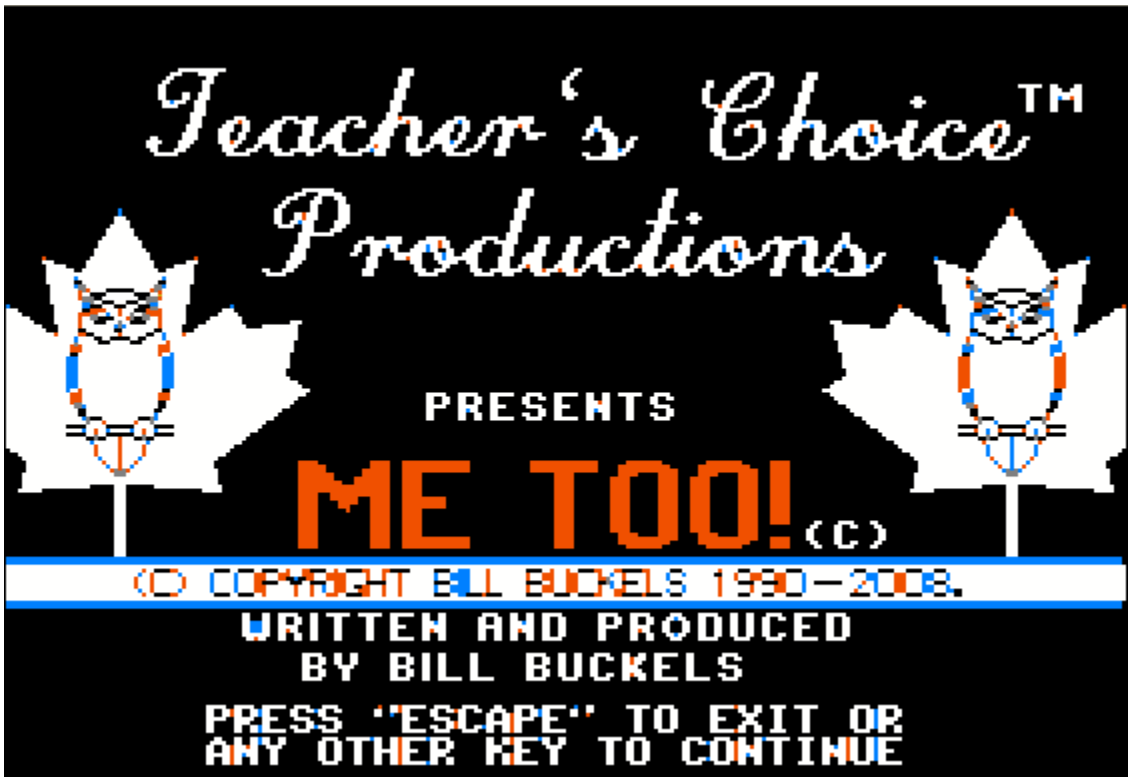
Introduction

History

METOO was originally written sometime in the late 1980's by Bill Buckels as an IBM-PC program in 4 languages; English, French, Spanish, and German. That was Version1, followed shortly after by Version 2 which was released in English and French only and reformatted and published for use in the Canadian School System. At around that time an Apple //e version was started but never finished.

In June 2008, using IBM-PC Version 2 as a basic design, and the Aztec C language programming environment, the Apple //e version was completely rewritten (this version) and released as emulator disk images in both English and French for free distribution.



General Description

METOO is a user-friendly program which teachers can integrate smoothly into their regular classroom activities regardless of the class's level of computer awareness. All menus are graphically based and easy to use with the keyboard. (A mouse is not used in the Apple //e Version.)

The student will be treated to pleasant and imaginative cartoon graphics including "Booker T. Bookworm" as a companion on his or her learning experience. Small musical selections (tiny tunes) as rewards and the use of sounds as activity reinforcement provide further enhancements.

Target Group

The software is directed mainly towards students learning to read words and beginning to read and build sentences but already familiar with sight reading and sounding the alphabet. Older children with learning disabilities may also be encouraged by METOO's graphical links with written work and by METOO's positive reward system.

Objectives

The general learning objective of METOO is to build vocabulary and familiarity with the use of words both alone and holistically as building blocks in sentences. METOO does this by presenting the student with 5 exercises. Exercises 2-5 consist of groups of 10 questions. Exercise 1 is a vocabulary familiarization and review.

Getting Started

Equipment Required/Loading Instructions

Apple //e and Compatible Requirements

You need a minimum configuration of an Apple //e or emulator with 128K of memory. A colour monitor is recommended.

Apple //e - Installation

Due to disk space limitations, METOO is distributed as two disk images; a start-up disk A and a data disk B.

Emulator

Load METOO disk image A into drive 1 and disk image B into drive 2. When you are prompted to flip the disk, do so and press any key. In AppleWIN, click on the “swap” icon on the toolbar. Other emulators, like the one that comes with Apple][Oasis, have this capability as well.

Apple //e

If you have created real Apple //e disks from the METOO disk images, and you have put side A on one side of the disk and side B on the other, boot with side A and when prompted to flip the disk, do so and press any key.

METOO can also be copied to a directory on a hard disk. Copy METOO.SYSTEM from disk A followed by the contents of disk B into a single directory, then run METOO.SYSTEM. Do not mix the English and French Versions in the same directory.

METOO Modules and Navigation

Opening Screen/Closing Screen and Credits

When METOO starts or when the ESCape key is pressed at the Main Menu, the “Apple Oldies” screen will be displayed. Press any key.

The METOO title screen will then be displayed. Press ESCape to exit to ProDOS or any other key to run METOO.

The Modules: How They Work

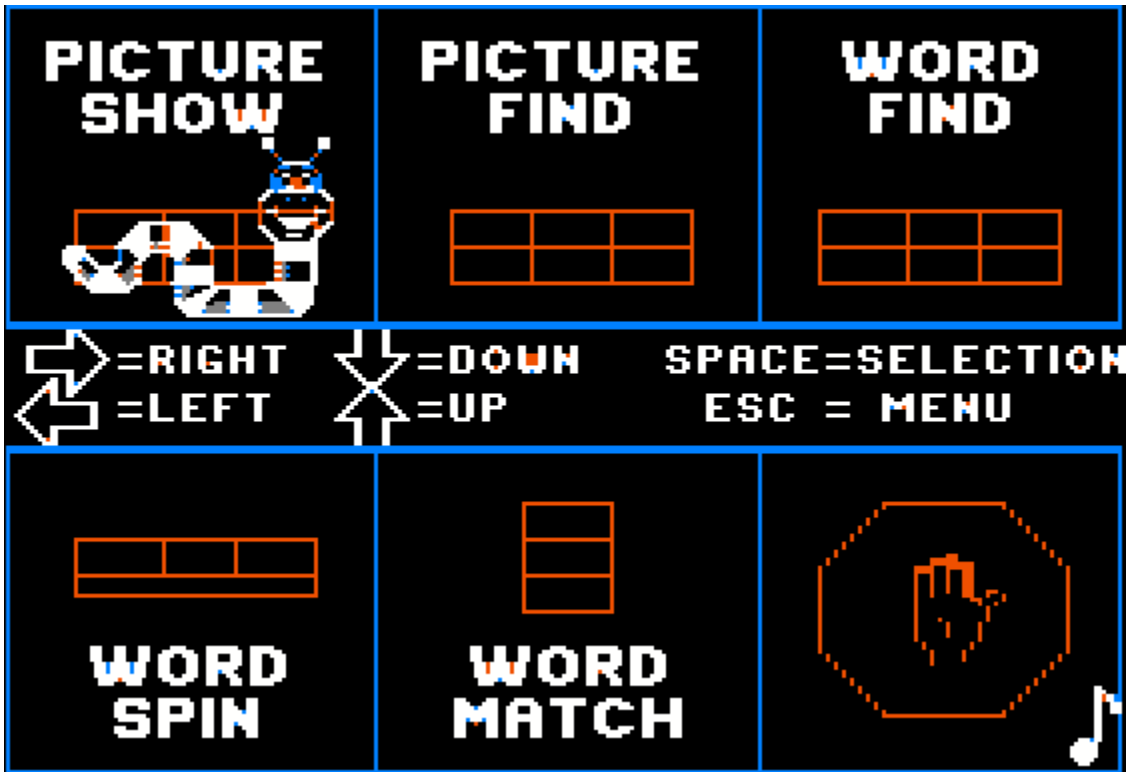
The student navigates METOO using the keyboard relative to the specific exercise. In all the modules the arrow keys are used to select an answer.

A SPACEBAR or ENTER key press is used to register the answer to the question except in the first exercise. In Module 1 the next screen of pictures and words is advanced by each key press.

With the exception of Module 1, positive reinforcement is given for the completion of each exercise and also at the end of each exercise group of 10. Questions are presented in a pseudo random manner to avoid repetition.

In modules 2 and 3, by default, 3 pictures are displayed for the first 10 correct answers. This is level 1. After 10 correct answers 6 pictures are displayed for the next 10 correct answers. This is level 2. After level 2, the student is returned to the Main Menu.

Modules 4 and 5 have a single level. After 10 correct answers the student is returned to the Main Menu.



Main Menu and Program Access

Directional arrow keys control navigation of a bookworm selection pointer which can be used to choose any of 5 activities or to exit the program. When the options pointer is on top of a menu choice, the ENTER key or the SPACEBAR can be pressed to select that choice.

The ESCape key can be used to return from each of the modules to the Main Menu.

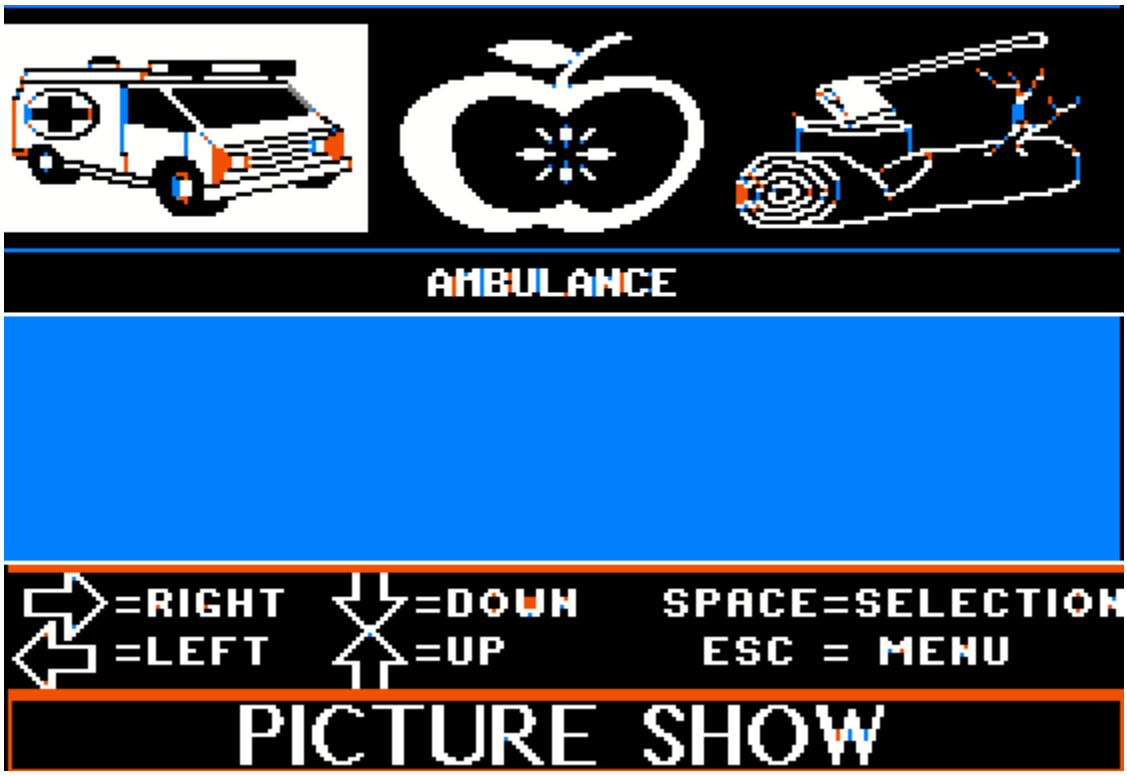
The ESCape key can also be used to exit the program.

The Picture Toggle – Numeric Keys 3 or 6

This feature allows the number of pictures used in METOO's first 3 modules to be toggled between 3 choices(less difficult) and 6 choices (default). Three pictures will appear when 3 is selected. Six pictures will appear when 6 is selected.

The Sound Toggle – CTRL + S

METOO offers a SOUND OPTION which can be toggled only from the Main Menu. When sound is ON a small musical note will appear in the right corner of the Main Menu screen.

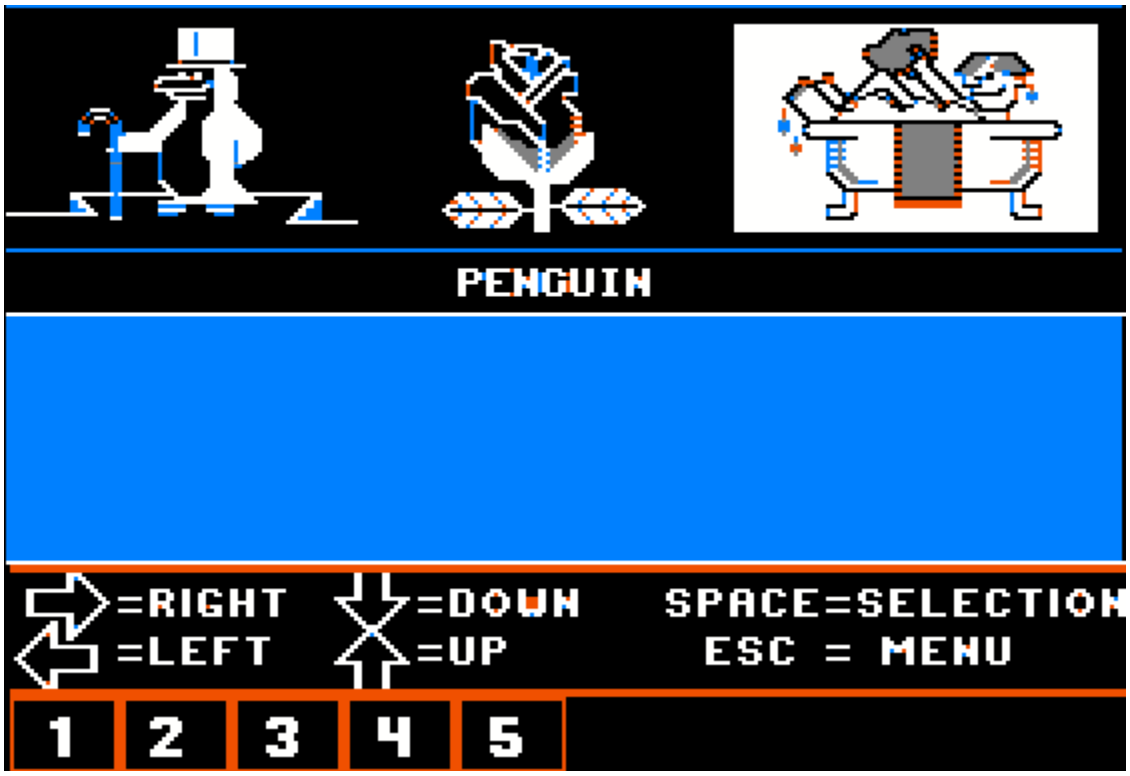


Picture Show: Menu Item 1

This module is a "Show and Tell" picture/word preview and review module. The student or teacher can use Picture Show to become familiar with the picture/word components of the lesson plan. The student is presented with 3 or 6 pictures at the top of the screen and a single word beneath the picture grid. The word displayed corresponds to the picture that is highlighted (outlined by a red box).

Arrow key movement is used to highlight any of the pictures and the displayed word changes to the currently highlighted picture.

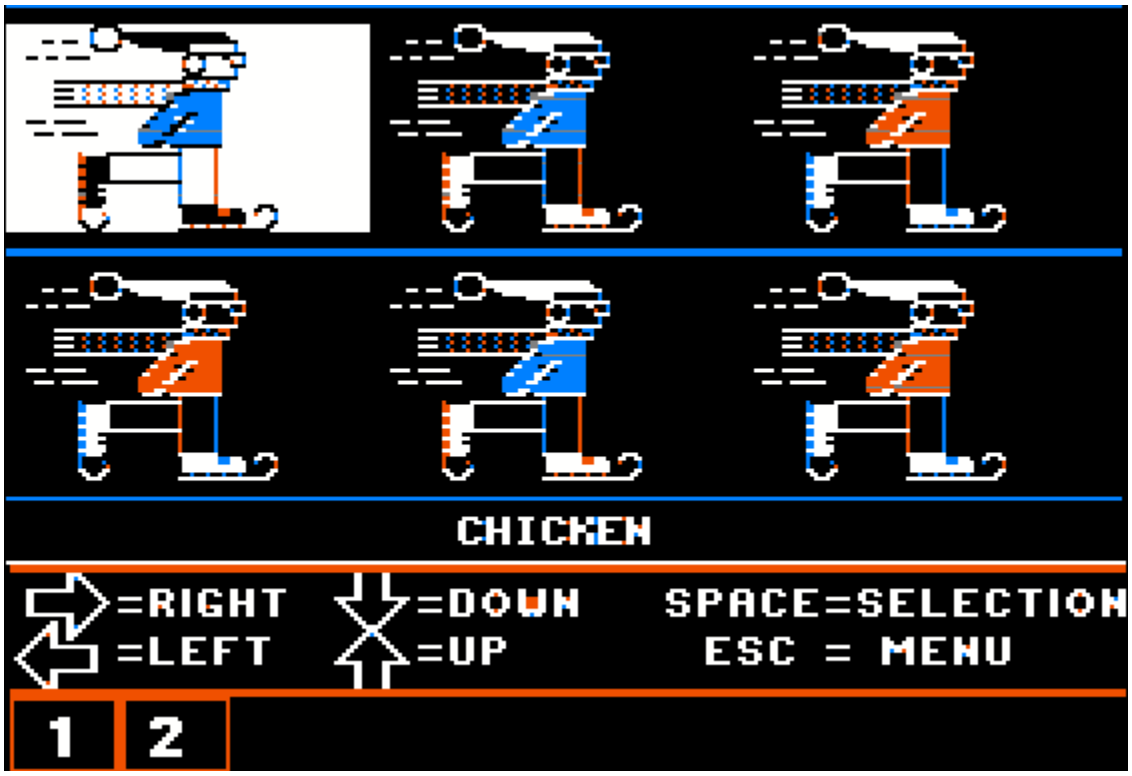
The ENTER key or the SPACEBAR are pressed to update the screen and display the next group of pictures.



Picture Find : Menu Item 2

The student is presented with a group of pictorial choices. Below the picture grid is a single correct answer. Arrow key movement is used to highlight any of the pictures. A SPACEBAR or ENTER key press is used to test the answer.

If the word matches the highlighted picture, the answer registers correctly and the score at the bottom of the screen is advanced and the next question is presented. After 10 correct answers the student is rewarded and returned to the Main Menu.



Word Find: Menu Item 3

The student is presented with a group of pictures. They are all pictures of the same object. Below the picture grid is a single answer. It may be the wrong answer. Arrow key movement is used to highlight any of the picture positions.

Each time a different position is highlighted the word below the pictures changes. The correct answer is "hiding" behind one of the pictures.

A SPACEBAR or ENTER key press is used to test the answer.

Word Spin: Menu Item 4

Three pictures (A correct answer and two wrong answers) rotate (spin) at the top of the screen. Underneath, a single answer is displayed.

As the pictures rotate, the correct picture is mixed with two wrong pictures. Sometimes the correct picture is not displayed.

To answer correctly, the student must press the SPACEBAR or ENTER key when all the pictures match the answer.

If the word matches the pictures, the answer registers correctly and the score at the bottom of the screen is advanced and the next question is presented. Even if the student is wrong the next question is presented. The student is allowed only one answer per question. After 10 correct answers the student is rewarded and returned to the Main Menu.

Word Match: Menu Item 5

Word Match is a holistic sentence building exercise. 3 pictures are presented and a sentence or a phrase is used as a "pointer" to point to the answer.

The sentence or phrase is missing the word that 1 of the 3 pictures represents.

The other 2 pictures aren't the best answer. Sometimes they are silly answers and if the student is reading, the dimension of humour will add even more interest to this exercise.

Below the work area the answer to the picture that is being pointed to is displayed but it may not be the correct answer.

A SPACEBAR or ENTER key press is used to test the answer.

If the word matches the pictures, the answer registers correctly and the score at the bottom of the screen is advanced and the next question is presented. After 10 correct answers the student is rewarded and returned to the Main Menu.

Score Keeping

For every correct answer, a LARGE NUMBER (consecutively from 1-10) is placed at the bottom of the screen.

In modules 4 and 5, after 10 correct answers the student is returned to the Main Menu and scoring starts again if another round of activity is started.

In modules 2 and 3, by default, 3 pictures are displayed for the first 10 correct answers. This is level 1. After 10 correct answers 6 pictures are displayed for the next 10 correct answers. This is level 2. After level 2, the student is returned to the Main Menu.

Rewards and Consequences

If the sound is on, each correct move is echoed by a pleasant beep and each wrong move results in a tiny "bronx cheer" (“raspberries”).

If the sound is on, after 10 correct answers, a musical reward consisting of a tiny tune from a fairly large selection of computer music provides confirmation that the exercise has been completed before advancing to level 2 (in modules 2 and 3) or returning the student to the Main Menu.

During the musical reward, a key press during song play will stop the song from playing and advance the program to the next level or to the Main Menu.

Credits

Many thanks to Madame Arla Strauss for her help on the French Version in the early days.

Special thanks to Winnipeg School Division Number One for providing a list of the Dolch 220 Basic Sight Words from which many of the words used in METOO were taken

The Music

The Blue Danube Waltz by Strauss
Humoresque by Dvorak
Funeral March of a Marionette by Guonod
Mexican Hat Dance
Symphony #40 by Wolfgang Mozart
Yankee Doodle
The Stars and Stripes Forever by John P. Sousa
La Cucaracha (Archie and Mehitabel's love song)
Pop-Goes-the-Weasel

Those who have been around computing for awhile will remember, with the exception of Sakura (Japanese Folk Melody) and Scales, the songs in this version of METOO are the same songs featured in the IBM Basic Program:

The IBM Personal Computer Music Scroll
Version 1.00 (C) Copyright IBM Corp 1981
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One of my early IBM-PC C programming efforts was to convert music from BASIC programs with sound or play statements to sound files of my own design. This old program from IBM is in fact the program that the songs originated from that you will hear in METOO. After the initial conversion to my own file format, with whatever adjustments that my IBM conversion program made to do so, these have then gone through my IBM to Apple II conversion utility SND2APP.

So I am duly crediting IBM for the original arrangement of these songs which I have re-arranged to suit my file formats and playback. Since IBM did not write these songs I can’t credit them with much else, but do appreciate the fun that I have had with them over the years.

For my part, I credit myself with the performance of these every time METOO is used and also with my arrangements.

I wrote all the playback routines for these as well.

The Graphics

The Graphics in METOO were generated by me but many were gathered from sources believed to be in the Public Domain, including the “Teacher’s Choice Owl” from the graphics library used by Eugene Ying’s PCPG program which written in IBM BASIC 25 years ago.

The 88 x 52 “MiniPix” which are the small graphics used throughout METOO’s modules were originally “Old PrintShop” graphics, by were converted by me to Apple //e native-mode graphics libraries for faster loading. I wrote the conversion utilities for all the graphics.

I wrote all the loader routines for these as well.

The Font

The Font in METOO was designed by me for the Apple //e. It is a special 7 x 8 native mode bitmapped font which includes French Language characters with accents. It is based on the built-in IBM-PC extended character set and uses the same “high ASCII” values.

The display routines were based on the Aztec C 7 x 8 font routines supplied with the compiler source and were extended by me.

The Library Files (Data Files)

The Data Files used by METOO were designed by me to be used to store Graphics and Binary Data. They are simple variable length and fixed length record files with the file extension “.RIB”. METOO loads some of these into the upper memory (auxiliary memory) on the Apple //e to speed-up the program. METOO loads the “MiniPix” used for game-play from disk since there is not enough memory on the Apple //e to hold these.

If the many files used by METOO were not put into libraries, and were stored as individual files, the ProDOS directory listings would be too numerous and could not be stored on one disk.

Appendix A - METOO Program Architecture

METOO's Apple //e version is different from the IBM-PC version in some respects although it has the basic design and functionality. This is mainly due to the memory and disk space limitations on the Apple //e. METOO's Apple //e version has no additional available disk space or program memory.

It is split into two separate and distinct programs; one for English and the other for French. Each is on its own set of disk images. On the IBM-PC the language could be changed while running METOO. This difference is due to the Apple //e's disk space limitation. Room is not available on the data disk for both English and French versions.

METOO's Apple //e version does not provide mouse support. It is very close to running-out of memory, despite the fact that it is broken-down into modules called "overlays" which swap the program modules from disk to memory. Room is not available in memory for mouse routines unlike the IBM-PC version so all entry is through the keyboard only.

METOO's Apple //e version also does not offer the option of loading additional picture libraries unlike the IBM-PC version. This too is partially due to space limitations, and partially due to programming considerations and the lack of additional picture libraries in a commonly used standard picture library file format. The IBM-PC version used "Old PrintShop" picture libraries as-is. These were never native to the Apple //e which used individual "MiniPix" instead.

None of this should make much difference to METOO's users and all of this is noted only for completeness. The METOO Aztec C source code can be reviewed for further technical details if you are so inclined.

I hope you enjoy using METOO.

Bill Buckels
July 2008