



AI/RWIS CBT Ontario Version MINIMUM SYSTEM REQUIREMENTS



Before you begin, please verify that the computer you are installing the software on meets the following minimum system requirements:

- Windows 98, 2000, NT, ME or XP
- 200 MHz Pentium class or compatible PC (500 MHz recommended)
- 64 MB RAM (128 MB recommended)
- 16-bit color display (24-bit recommended), 800 x 600 resolution
- 16-bit sound (optional but strongly recommended)
- Speakers, internal or external (optional but strongly recommended)
- 8X CD-ROM drive
- 70 MB free disk space for typical install; 715 MB free disk space for full install; plus 215 MB additional to install scenarios
- Windows-compatible printer (optional but strongly recommended)
- Windows-compatible mouse
- Keyboard
- Internet browser: Internet Explorer 4 or above or Netscape 4 or above (optional but strongly recommended)
- Internet connection (optional but strongly recommended)
- Microsoft Agent 2.0 (included with program)
- QuickTime 4.1 or later (available from Apple's QuickTime web site)
- Adobe Acrobat Reader 3.01 or later (versions 5 and 6 included with program)

Each of these requirements is described in more detail below.

Windows 98, 2000, NT, ME or XP

The CBT is designed to run from a local machine running a 32-bit Microsoft Windows operating system. It will not run in a Unix environment, on a Macintosh computer, from a LAN, in MS/DOS, in a browser, or in 16-bit versions of Windows (such as Windows 3.1 or Windows for Work Groups). Because the program uses state-of-the-art multimedia technologies, older Intel-based computers (such as a 486) will be unable to run the program.

200MHz Pentium PC

The CBT is not designed to run on systems running at an operating speed lower than 200MHz. This is the minimum speed and reflects computer technology that is 4-6 years old. The developer recommends that newer technology be used whenever possible to enhance performance, such as a 500MHz PC.

64MB RAM

The CBT will operate effectively at 64MB RAM. Less RAM will likely result in noticeable delays and possible “stuttering” when particular media types (such as 3D animation, digital video, audio, etc.) are played within the CBT. For this program, RAM is just as important as operating speed; more RAM (e.g. 128MB) may result in “smoother” performance.

16-bit Color Display

The program uses rich visuals to provide the instruction and simulation necessary to achieve the learning objectives. This includes high quality photographs, illustrations, animations and digital video. The 256-color default setting of PC displays that were shipped 4-6 years ago must be changed if the visuals are to appear as designed. In fact, because the visuals will appear so poorly as to be unusable on a 256-color display, the CBT will force the user to quit and change the display setting before proceeding.

Although a 16-bit color setting is sufficient, the program will look even better in 24-bit. On the other hand, 32-bit color is only recommended for newer computers with a fast processor and a powerful video card with a lot of video RAM; users of older machines may experience slower displays at this very high display setting (16 million colors) because of the video processing power required.

800x600 Resolution

The CBT is designed for 800x600 pixel resolution displays. This display setting was the default used by PC manufacturers on PCs shipped 2-4 years ago. Prior to that, some manufacturers shipped PCs with a default of 640x480. Currently, manufacturers are shipping machines with settings of 1024x768 or higher. The setup program will prevent the installation of the CBT if the display card is set at 640x480.

If the CBT detects that the display is set for 800x600 or higher, the program will continue. You will be unable to expand the display of the CBT beyond 800x600. The displays shown in the program are fixed at that resolution to avoid on-the-fly scaling of visuals (which likely would lead to performance degradation and reduced quality of the images displayed). Instead, on machines with displays set to 1024x768 or higher, a black “mask” will cover the desktop area that would otherwise appear around the CBT edges.

16-bit Sound

The CBT includes music, sound effects and voice-over narration. Optimal learning of the material presented in the CBT will occur when the user utilizes the narration and other audio cues. The developer recognizes that not all PCs upon which the program may be used will have sound cards; therefore, sound is an option. However, sound capability is strongly recommended as it will enhance the learning experience. Much of the narration will be 8-bit (single speaker (mono), 11Khz) but some audio will be 16-bit. This should not be a problem for most PCs that do contain sound cards because 16-bit (and higher) cards have been the norm for six years or more. As the bit numbers imply,

the higher the number, the better the quality. The developer has a process in place to ensure that the 8-bit audio used will be very close in quality to 16-bit.

Speakers, Internal or External

In addition to a 16-bit sound card, if the audio included in the CBT is to be heard by the user, the PC must be equipped with speakers of some sort. An internal speaker that ships with most laptop computers would be adequate for those types of PCs. Headphones or regular external speakers on a desktop PC are fine. Headphones are recommended for maintenance and training facilities where the CBT audio would be a distraction to others in the facility.

Be aware that the little speaker that ships as a component in nearly all PCs (the one that “beeps” when the PC is turned on) is not capable of playing the CBT audio. A sound card and “multimedia” speakers are needed to hear the program audio.

8X CD-ROM Drive

The CBT ships on two CD-ROMs: “Disc 1: Setup / Program / Scenarios” and “Disc 2: Content”. The program itself and a few associated components must be installed to the user’s hard drive and all student records will be written to the hard drive. But the majority of the program’s content can be kept on the content CD-ROM in order to keep hard disk space requirements at a minimum (a minimum of 70MBs of hard disk space will be required). This is the ‘typical’ install. In order for the media to playback smoothly, an 8-speed CD-ROM drive is required. Slower drives can be used but performance will likely suffer (such as stuttering video and audio, slow display of photographs, etc.).

If there is sufficient hard disk space, a ‘full install’ is recommended. This setup option copies the contents of both CD-ROMs to the hard drive, thus eliminating the need for Disc 2 when running the program. Because the program will be able to access all of the content directly from the hard drive in this case, performance will be greatly improved.

Windows-compatible Printer (optional)

The CBT can print the following:

- the full text of a unit;
- a screen shot of the current screen being displayed;
- the glossary;
- the text and graphics presented on a Knowledge Base screen (the Knowledge Base is similar to an online encyclopedia);
- web pages linked to by the program using the browser’s print feature;
- reports, tables and documents; and,
- a certificate of completion.

If the displays/reports being printed are in color, they’ll print in color if the PC is attached to a color printer, otherwise they’ll be converted to grayscale by the printer driver and printed in black and white. The print feature is an option but it is recommended that PCs

running the CBT be attached to a printer to take advantage of this feature. It allows the user to have a hard copy of key information to use as a reference and for review.

Windows-compatible Mouse

The CBT requires the use of a Microsoft Windows-compatible mouse. The typical two-button mouse is adequate. With just a few exceptions, only the left mouse button is needed. Some keyboard alternatives will be provided for common navigation controls so that the student can opt to use the mouse or keyboard for those functions. Most interactivity, however, will require the use of a mouse, both for clicking (selecting) objects and for moving (dragging) objects.

Keyboard

A keyboard is required for many aspects of the program. The login requires that the user type in their name; some questions will be fill-in-the-blank; and so forth. Some common navigation controls can be operated with either the mouse or keyboard.

Internet Browser (optional)

The CBT includes links to web sites so that students can get more in-depth information on discussions that may be beyond the scope of the CBT and/or may be agency-specific. Although an Internet browser is not required, the developer strongly recommends that one be available so that the student can take advantage of this additional information. A simple HTML (hypertext markup language) viewer is included on the CD for viewing some Knowledge Base content in plain HTML format but it will not be capable of accessing most web pages on the Internet. In order to view contemporary web pages, the browser should be Internet Explorer 4 or Netscape 4 or later (the most current version of these browsers at the time the CBT is deployed is recommended).

Microsoft Agent 2.0

Microsoft Agent is a technology that enables the CBT to make use of an animated 3D character that can communicate to users through speech (and/or text) and that serves as a guide. An MS/Agent character (“Jake”) has been custom-designed for the CBT to provide help and guidance to new users and as needed throughout the program. The engaging “personality” of the character makes the program more interesting and therefore is likely to cause the user to spend more time with the CBT and become more immersed in the content. MS/Agent is part of many versions of Windows already (e.g. Windows 98SE, 2000, ME, XP, etc.).

The files required to setup MS/Agent are included on Disc 1 and the Setup program will prompt you to install them if needed. Beware, however, that MS/Agent, once installed, becomes an integral part of the operating system (similar to DirectX) and cannot be uninstalled. System level access is needed to install MS/Agent on some operating systems (such as Windows NT). There are no detrimental effects to installing MS/Agent; it has no impact on other programs on the PC. The files require less than 1 MB of disk space. To learn more about MS/Agent, visit the web site below:

<http://www.microsoft.com/msagent/>

The MS/Agent character described above communicates through speech. This dialog can be text-only via a text balloon, audible speech, or both text and speech concurrently. The user will best absorb the information expressed by the character when both the text balloon and audible speech are active. In order for the character's speech to be heard, a text-to-speech engine must be installed. If not already available on the user's system, the Setup program will install the Lernout & Hauspie TruVoice text-to-speech engine. This utility will make entries in the system registry and therefore may require system level access on some operating systems (e.g. Windows NT). The speech engine requires about 1.5MBs of disk space. The text-to-speech (TTS) engine will only be installed if MS/Agent is either already installed or you elect to install it. It has no impact on other programs on the system. Unlike MS/Agent, the TTS engine can be uninstalled.

QuickTime 4.1

The digital video used in the CBT and many of the 3D animations will be implemented using QuickTime "MOV" files. QuickTime is a video playback technology. The CBT requires that version 4.1 or later of QuickTime be installed. The Setup program will prompt the person installing the CBT to download and install the QuickTime Player available on Apple's QuickTime web site if required. Because QuickTime places files in the system directory and makes changes to the system registry, some installations may require system-level access (e.g. PCs running Windows NT). The developer is using QuickTime video instead of AVI files (a digital video format with playback capability built into all version of Windows) because of quality; certain QuickTime "codecs" (compression/decompression schemes) can be used to embed video onto backgrounds much better than comparable AVI codecs.

Adobe Acrobat

The program includes documents in Adobe's Portable Document Format (PDF). These documents are displayed as an integral part of the CBT interface. However, in order for this feature to function, the Adobe Acrobat Reader 3.01 or later must be installed.

Two versions of the Reader ship with the program on Disc 1. If your computer is running Windows 95 (not recommended or supported), you will be prompted to install Acrobat Reader 5.05 if it isn't already installed on the PC or if the version installed is earlier than 3.01. If your computer is running Windows 98 or later, you will be prompted to install Adobe Reader 6 if it isn't already installed on the PC or if the version installed is earlier than 3.01.

Various External Utilities

The CBT has been developed using Macromedia Authorware 6.5 and is compiled as an executable with links to external media files. Some features of the CBT require the use of external utilities (similar to dynamic link libraries, or DLLs). These utilities will be installed alongside the CBT executable on the hard drive; they will not be copied to the user's system folder. The CBT executable and external utilities do not need to be

registered and so will not impact system level files (e.g. the registry, win.ini, sys.ini, etc.).