Several Hardware and Software for Developing Multimedia/CAI Materials

(as of April 19 2000)

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1. Text data   *.txt *.doc etc.

(1) With keyboard

   (Method) with keyboard **text** data together with numeric data are directly **input** to the materials.

   (Hardware) *word processors* associated with the Multimedia PCs (MMPCs).

   (Software) *text editor (ex. WordPad and NotePad on Windows)*, *word-processing software*, both with the MMPCs are really useful both input and **edit** the data.

   It is recommended that with the use of web browser such as *IE or Netscape Communicator* the basic operation on Windows, Copy and Paste from Websites, will be able to process the copy/import of the content as a text format.

(2) With the use of conversion software (conversion text files to MS-DOS text files)

   (Method) converting one into MS-DOS **text** file and to integrate into the material.

   (Hardware) not specified.

   (Software) many such as *Text converter*, or a *function in word-processing software converted into the text/ASCII file format*, etc.

(3) With the use of Scanner

   (Method) with software like optical character reader (OCR), **printed materials** may be input and be converted into text file.

   (Hardware) *Scanner*.

   (Software) OCR software such as *Yonde-KOKO*, *WinReader*, *MacReader*, *OmniPage*, etc. or *those come with the hardware* for scanning and **transfer** the image into the computer.

2. PAINT-type graphic data (image data)   *.bmp *.jpg *.gif *.tif *.pic etc.

(1) With the use of Pointing Devices

   (Method) **graphic** data created with using software are input directly into the material.

   (Hardware) not specified, but sometimes *Tablet* will be useful.

   (Software) PAINT-type graphic software such as *Paintbrush, PhotoFinish, Ulead Photo-Impact, Studio/8, Super Paint*, etc.

(2) With the use of Scanner

   (Method) **still-pictures** and illustrations are input to integrate into the material.

(Hardware) *Scanner*

(Software) scanning software such as EpsonScan! or software packaged in the hardware. *Color Magician*, *PhotoShop* would be also applicable, but too expensive.

(3) With the use of Digital Still Camera

(Method) With the use of several memory cards such as *smart media, compact flash, multimedia card, memory stick*, etc., which contained in the camera, image on these media will be easily transferred into the computer.

Three-dimensional image can be taken by the camera, while with scanner two dimensional images could be applicable and useful.

If the camera has no such memory cards, use cables developed and arranged by its camera developer/distributor. The basic I/O interface connector with the computer *RS-232C* is normally used.

(Hardware) Digital Still Camera with memory card or that with specially arranged cables for the camera.

(Software) Basically the software packaged with the camera or with the specially made cables should be utilized to transfer still image into the computer.

(4) With the use of *video camera*

(Method) still-image taken by video cameras are input to computer hard disk through video-capture board and converted into multimedia material as **still-image** data.

(Hardware) *video camera, video-capture board*, etc.

(Software) software, which *packaged* in the video-capture board, or software like *JCPTE* by JVC and *PhotoSweetSE, PhotoFinish, PaintShop and PhotoShop etc. Premiere and VideoShop would be also useful but too much powerful and expensive.*

(5) With *PhotoCD*

(Method) Integrate directly **still-image on CD-ROM**, which contains 35mm film, pictures in digital and is produced by DPE shops.

(Hardware) *CD-ROM drive*, but not old fashioned.

(Software) software such as Paint Shop, *PhotoShop*, etc., which are also useful to **edit** the image data.

3. DRAW-type graphic data   *.bmp *.jpg *.gif *.tif *.pic etc.

(1) With Pointing Devices

(Method) With using draw-type **graphic** software, digital-data are produced.

(Hardware) none, but *Tablet* will be useful.

(Software) DRAW-type software such as *Paint Shop, Illustrator*, *FreeHand*, etc. is also useful to **edit** the

image.

4. Sound data   *.wav *.mp3 *.snd *.rec etc.

(Method) With using software like *PowerPoint, AuthorwareProfessional, HyperCard, Qmedia et al.* which has the capability of **sound** recording, and/or with sound editing software.

(Hardware) sound digitizer such as *Sound Recorder, WaveLabo, Clean!, Mac Recorder* et al. which should be connected to a serial port of the computer or just *microphone*.

(Software) sound digitizer software like *SoundRecorder, WaveLabo, Clean!, and SoundEdit Pro, etc.* for not only input but also **edit**ing and output.

5. *Video Image*   *.avi *.mpg *.qt *mov *.vob etc.

(1)Movie recording through video-capture board

(Method) With video-capture board and software, **movies (moving image)** will be **recorded/captured** on the hard disk through the board to integrate into the material, but sometimes higher capacity of *hard disks* or other peripherals such as Magnetic Optical Disk (*MO*), r*emovable hard disks like CD-R, ZIP, JAZ* etc. might be recommended.

(Hardware) *video-camera* (digital/analog) *video-capture board, video-capture card (PCMCIA card)*

(Software) With regard to input the video mage from the camera video capturing software packaged with the hardware such as *Video for Windows, ULead VideoStudio, etc. could be used.* Some of these have the capability of **edit**ing video image with limited functions.

Besides such software mentioned above for input and edit video image, to highly edit and output those image *Premiere, Mgi VideoWave, VideoShop etc* will be useful but expensive.

.   In addition to these so-called authoring software such as *AuthorwareProfessional, Qmedia, Commend,Leonardo's Multimedia/SuperYukiPro, EhonWriterPro, MediaRoom, PIONEER Multimedia ToolKit*, *ToolBook*, *ExpandedBook*, *Director*, etc. or even *PowerPoint, Freelance* etc. for powerful presentation software and *NetscapeComposer, HomepageBuilder, etc.* for easy to create homepage are also applicable to **import/export and edit** materials but some would be expensive.

6. Control of audiovisual equipment

(1) Audio CD, LD, VCR, Experimental device Control

(Method) With the use of authoring software such as *Authorware Professional,* PIONEER Multimedia ToolKit, the audio CD, LD and VCR equipment are **controlled**.

(Hardware) Control of audio CD: *CD-ROM drive.*

Control of LD: *LD with RS-232C interface.*

Control of Video equipment: *Video with VISCA specification and Vbox interface kit.*

(Software) such as *AuthorwareProfessional, PIONEER Multimedia ToolKit* would be useful.

(2) Experimental Divices

(Method) With the use of specially developed devices and/or PCMCIA card such as ECOLOG, several computers are changed into the powerful and interactive experimental devices to give you sensors and controllers.

(Hardware) For the ECOLOG and other devices which should be associated and connected with computers, contact for example http://www.rika.com/.

(Software) Specially developed software will be needed, but normally it come with the hardware.