

Appendix II:

Setting Up a Technology Infrastructure

Producers need to set up workspaces and tools before they begin their digital story. With so many brands and prices, purchasing technology can become overwhelming. To help you through this process, we've included a sample budget for setting up this infrastructure, with allocations for each item in US dollars (USD)*.

You may already have a digital storytelling infrastructure at your nonprofit, but if you are starting from scratch, an average budget of 2,800 USD should be sufficient to obtain the capacity to manage a digital story production. *While we do not endorse individual brands of equipment, we do summarize the costs for some of the equipment we have found useful in our digital storytelling productions:*

<u>Item:</u>	<u>Price Range:</u>	<u>Item:</u>	<u>Price Range:</u>
<u>Flatbed Scanner</u>	75.00 to 100.00	<u>Digital Still Camera</u>	125.00 to 175.00
<u>Printer</u>	90.00 to 150.00	<u>Microphones</u>	195.00 to 500.00
<u>DV Camera</u>	250.00 to 500.00	<u>Headphones</u>	20.00 to 75.00
<u>Camera Tripod</u>	50.00 to 175.00	<u>Computer</u>	1,250.00 to 1,500.00
<u>FireWire cord</u>	20.00 to 30.00	<u>Video Editor</u>	90.00 to 300.00

Total: Between 2,165.00 to 3,505.00 USD

*These figures represent the approximate market value for items as of 2006.

Flatbed Scanner

Many digital stories require you to scan documents, newspaper clippings, and photos. Three hundred dots per inch (300dpi) is a good standard to remember when considering the scanning power you need for a digital story.

Printer

The primary need for this device is to review scripts and print cue cards. This mainstay of the modern office is useful for creating letters and printing consent forms during production. When you are ready to premiere the story, you can print advertising materials for the event.

Digital Video (DV) Cameras

Digital storytelling necessitates that you have a digital video camera. These days you can find an inexpensive digital video camera at most retail stores. If you're seeking professional quality video, then you may need to search for a specialty store. Cameras range in price from \$400 for a 1CCD (charge-coupled device) chip camera to \$2,000 – \$3,000 for a 3CCD chip high-end consumer or professional quality camera. The difference is in the quality of the picture.

Tripod

A good tripod will keep your camera steady and minimize the bumps and skips you experience during a pan.

FireWire cable

You will need a FireWire (and FireWire capture card) to connect your camera to your computer. There are two types of FireWire cords: 1) 6 pin to 4 pin and 2) 4 pin to 4 pin. You want to purchase the type that is compatible with your computer. Be sure to check if your computer FireWire port is 6 pin or 4 pin before making your purchase.

Digital Still Camera

While not completely necessary if you have a DV camera with built-in still-photo capabilities, a digital still camera is useful for capturing the best photos possible. Still cameras have a wider range of settings for scenery and

subjects that can enhance image quality. A digital still camera is a worthwhile investment if the story relies heavily on photos.

Microphones

Lavaliere, wireless, and shotgun microphones have different applications and their use is often dictated by budgetary constraints. Microphones, much like headphones and other audio equipment, increase in price with their ability to capture sound and minimize noise.

A lavaliere microphone is sufficient to conduct sit-down interviews if you can control your recording environment to minimize exterior noises. With this type of microphone your physical range is limited since the mic is tethered to the camera.

Wireless microphones can get you the same sound quality as tethered lavaliere microphones, but with the added freedom to freely change your recording angle and distance.

If you are recording an event and are concerned about capturing crisp sound, then consider wireless or shotgun microphones. Shotgun microphones are usually a little steeper in price, but they have more capabilities. For example, if you are trying to capture a group conversation, shotgun mics will get the best audio possible.

Headphones

A good set of headphones surround the ear so that exterior sounds are mostly eliminated. Much like a microphone, you pay a premium for sound quality and noise reduction.

Computer

If you plan to create digital stories regularly it is worthwhile to invest in an editing station, one more powerful than a typical personal computer, to ease the task of editing footage, rendering movie files, and burning DVDs. Major

computer manufacturers like Dell, HP, and Apple are similar in price and capacity of their processors and hard drives. You should buy the platform you prefer--PCs typically use the Windows operating system, while Macs use OS X. Any new computer purchase should come with the following features:

Intel Core Duo 2 –PCs and Macs have a dual 2.0 Gigahertz (GHz) processor in common which it is equivalent to 4 GHz of processing power. One rule of thumb is that if it costs more than 50.00 USD to obtain the next fastest processor (with all other components being the same) then it is probably not worth the investment.

100 Gigabyte (GB) storage – hard drives store your library of projects. Each 5 minute project can take between 1 GB and 5 GB of space. Consider that you will accumulate other projects and software over the life of the computer, so a healthy-sized storage drive is important. Drive speed is also essential to performance, and video editing workstations have drives spinning at or above 7200 revolutions per minute (rpm).

1GB of memory – the more random access memory (RAM) the more smoothly a computer can handle multitasking, such as intensive video editing and rendering tasks.

128 Megabyte (MB) of video memory – video RAM helps you produce the graphic impact you desire. For video editing, this means seeing the color, sharpness, brightness, etc. in your final movie that you intending in your editing process.

Monitor or flat panel LCDs – LCD panels take up less space on your desk and allow for a widescreen perspective while editing your video. However, conventional “tube” monitors deliver a better range of color and provide a better representation of how a project might look on a television.

DVD burners – are important for backing up your important projects and absolutely necessary for burning DVDs of your digital story for distribution.

FireWire Port (1394 DV card) – this digital video capture component is about as common as USB 2.0 ports on medium to higher range PC systems. Verify that your computer has this capture capability, and if it doesn't, be sure to install a proper video capture card. Consult your computer vendor or your computer care instruction manual before installation. Macs have FireWire ports on all models.

Computer comparisons based on the following models:

[Dell XPS 410 Series](#)

[HP m7690y Series](#)

[Apple iMac Series 20”](#)

Video Editing software

The video editing software you purchase will depend on your computer and operating system configuration. Be sure to purchase software that allows you to pan/zoom across images, edit more than three audio tracks, and lay text over video and images. The principal functionality of your software is to ease the

processes of importing, organizing, and editing footage. Without breaking the budget, some good systems to invest in are Sony Vegas Movie Studio+DVD for a PC and Final Cut Express for Macs.

Technology Final Remarks

It is up to you as a consumer to get what you need for the lowest price. Some online resources Llano Grande has used for finding competitively-priced technology are:

- <http://www.bhphotovideo.com/> – One stop shop for equipment. Though we recommend price comparisons on the following sites to find a better deal.
- <http://www.froogle.com/> – Good search engine for prices on just about any product.
- <http://www.newegg.com/> – Portal to anything computer related.
- <http://www.resellerratings.com/> – Research your reseller to help ease any concerns about shopping online.

Ideally, a digital storytelling setup also includes an internet connection faster than a 56K phone modem. A DSL, cable, or T-1 connection are more efficient for downloading software and uploading media. These connections will expedite online publishing of the digital story, which should be at the forefront of any production plans.