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Fabrication – Dime and Dollar

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Do-it-yourself fabrication — doing the work in-house with little or no outside vendors — can save you money but requires certain skills and is time intensive. Do you (or a volunteer) have the skills you need (craftiness)? What do you have more of, money or time? Enough time?

Quick Tips:

- Neatness counts (e.g. fresh paint, no dust, dents, or scratches).
- Quality fabrication won't make up for bad content/interpretation. Spend time and resources on development and design.

A Few Resources:

Furniture making —

- NPS Exhibition Conservation Guidelines – great handbook on building cases, lighting, etc. – personal favorite! (\$50) <https://www.nps.gov/hfc/products/cons/ex-con-guidelines.cfm>

Desktop label making and mounting — see below

Off-the-shelf and DIY mounts and mount making supplies—

- www.artdisplay.com
- Gaylord (installation supplies) <http://www.gaylord.com/c/Installation-Supplies?viewMode=List&sort=newest&pageSize=80&q=%3Anewest&show=Page#>
- University products (mount making tools) <https://www.universityproducts.com/equipment-tools/mount-making-tools>

Search conservation sites for specific mount making help:

- American Institute for Conservation (AIC) <http://www.conservation-us.org/>
- Canadian Conservation Institute (CCI) www.cci-icc.gc.ca also, see their publication, “Mount-Making for Museum Objects”
- NPS Conserve-O-Grams – http://www.nps.gov/museum/publications/conservoogram/cons_toc.html#collectionpreservation

Audio and Video — see below

Furniture	
Dime	Dollar
<p>Recycling:</p> <ul style="list-style-type: none"> • Paint/laminate old cases, replace regular glass with plexi • Replace scratched plexi • Repurpose hollow-core doors <p>Adapting:</p> <ul style="list-style-type: none"> • Adapt mass-produced furniture (e.g. Ikea) <p>Free carpentry:</p> <ul style="list-style-type: none"> • Volunteer or Voc School built (see NPS publication) 	<p>Paid carpenter</p> <p>Commercial vendors and fabricators: e.g. Gaylord, Museum Resource, KelTech, Pacific Studio.</p>
Labels and Graphics	
Dime	Dollar
<p>Hardware:</p> <p>Your 8.5x14 or 11x17 color printer</p>	<p>Hardware:</p> <ul style="list-style-type: none"> • 13x19 color inkjet printer (starting at about \$200 on sale – ink is expensive) • Vinyl cutter (e.g. Silhouette = \$300+)
<p>Outsource:</p> <ul style="list-style-type: none"> • Local FedEx Office or similar for 11x17 and larger B&W and color, on paper or vinyl (start at \$.75/sq ft) • Vinyl letters 	<p>Outsource:</p> <ul style="list-style-type: none"> • Print mounted to stiff substrate • Direct prints on stiff substrate • Direct print on canvas, vinyl, and more (price varies)
<p>Backing materials (substrates):</p> <ul style="list-style-type: none"> • Foamboard • Gatorboard <p>(start at \$7/30x40 sheet)</p>	<p>Backing materials (substrates):</p> <ul style="list-style-type: none"> • Gatorboard, Sintra, Coroplast, Dibond, acrylic, etc.
Mounts	
Dime	Dollar
<p>Board and fabric: Ethafoam, coroplast, acid-free foamboard, hot glue/tape, and fabric</p> <p>Hand-me downs and hardware store: e.g. Store shelving, odd hardware</p> <p>Vendors:</p> <ul style="list-style-type: none"> • Retail acrylic risers • “Of-the-shelf” mounts: e.g. Artdisplay.com (armatures, etc.), Gaylord (pins, etc.) 	<p>Commercial fabricators: e.g. local welders, sheet metal fabricators, or exhibit fabricators</p>

Audio and Video	
Dime	Dollar
Software: <ul style="list-style-type: none"> • Microsoft Movie Maker (free) 	Software: <ul style="list-style-type: none"> • Sony Vegas Movie (\$100)
Hardware: <ul style="list-style-type: none"> • MP3 player • Photo Frame • TV w/ USB or DVD loop play 	Hardware: <ul style="list-style-type: none"> • Digital audio player (CFSound = \$200+ • Digital video player (Videotel, Roku/Brightsign, Akman \$350+) <i>Plus buttons, sensors, speakers, monitors etc.</i>
Royalty free audio effects & music: <ul style="list-style-type: none"> • MS sound effects • Amazon downloads (Free-\$.99 each)	
Narration: <ul style="list-style-type: none"> • Oral history collection • In-Kind (pros, voc school, local radio station) 	Narration: <ul style="list-style-type: none"> • Professional voice actors • Sound studio (rates vary)
Hands-on Fun and Learning	
Dime	Dollar
DIY design and build Retail purchases (Items made for play/learning or repurposed to this end)	Commercial fabricator for design/build

DESKTOP EXHIBIT LABELS

Supply List (see below for sources and costs)

- Paper: choose a heavy weight stock (e.g. 80 lb.), photo paper, or specialty paper (e.g. parchment or graphic paper).
- Backing material (substrate)
- Adhesive
- Plastic squeegee
- Cutting tool(s)

1. Select Backing Material

Why: Gives your paper labels some substance so they will not curl or crease while on display.

What: Poster board, mat board, foamboard (regular, not acid-free), or gatorboard. I use either black or white, and when using black I use boards with black cores, so the color is the same when cut. Questions to ask when deciding which to use: Do I want the labels to blend in or stand out? What size is the label? (bigger than 11x17, you might want sturdier gatorboard) Where will it be? What is the overall look I want to create?

Where: Available at general craft and art supply stores, such as Michael's and JoAnn's, or through your local frame shop. The regular (aka paper or decorative) black-core mat board and foamboard sizes are 32"x40" (\$7+ for mat board, \$10+ for 3/16" foamboard) and 40"x60". Sometimes you will also find smaller sheets of foamboard (e.g., 20"x30") sold on the shelves at these stores and at office supply stores, such as Office Depot. I have increasingly found that frame shops only stock acid-free (aka rag, archival, conservation) foamboard, so you may want to order in advance. Most shops receive deliveries at least once a week, so you shouldn't have to wait long.

2. Mount Label to Backing Material

What: Spray adhesive or cold-mount adhesive. I have found Super 77 by 3M to be the most reliable spray adhesive. Cold-mount adhesives come in rolls of various widths (11", 16", and 24" are standard) and lengths. I use 3M Positionable Mounting Adhesive 568. Questions to ask when deciding which to use: What's my budget? Do I have a safe place to spray? How much time do I have? Which method am I more comfortable with? (Super 77, ≈\$10/can; 11"x50' 568, ≈\$60)

How: Make sure label and backing material are free of dust. If using spray, use a well-ventilated area and protect spraying surface from overspray with newspaper. Spray labels in batches, laying down new layer of newspaper between batches. For cold-mount adhesive, follow directions with package. In both cases, use squeegee to secure mount (protect labels with scratch paper).

Where: Super 77 (\$9 - \$15) and other spray adhesives can be purchased at your local hardware store. They are also available, along with 3M's Positionable Mounting Adhesive 568 (\$60+), through standard archival suppliers, such as Gaylord, Hollinger, and Light Impressions, all of which have online catalogs. Plastic squeegees (\$2+) are sold with wallpapering supplies at local hardware stores. Cold-mount adhesive comes with a squeegee. Note: You can find some foamboards sold with an adhesive surface. This route is more expensive than spray,

but maybe less costly than buying the cold-mount adhesive. I haven't tested the "stickiness" of these adhesives, but it might be a route you'd want to consider.

3. Trim the Labels

What: For poster board, a standard paper cutter will suffice. Mat board, foamboard, and Gatorboard can be cut by hand using an X-Acto or other craft knife with a heavy metal ruler as a guide, OR with a mat cutter, OR by your local frame store. Questions to ask when deciding which to use: What's my budget? How crafty am I? How patient am I?

How: If cutting by hand, protect the table surface with scrap mat board or a vinyl cutting sheet. Practice to achieve a consistently straight 90° cut. If using a mat cutter, follow the instructions that come with the cutter. Again, practice makes perfect.

Where: X-Acto knives, blades, and heavy rulers can be purchased at your local hardware or craft store (\$10+). Mat cutters are available through fine art supply retailers, such as Daniel Smith and Blick Studio (\$150 - \$400). Both of these suppliers have online catalogs.

4. Hanging labels

What: Poster putty (e.g., Poster Tack, Fun-Tak, Poster Putty), or 3-M Command strips.

Questions to ask when deciding which to use: How big is the label? (up to 11x14 okay with poster tack) How long will it be on display? (you want to choose the easiest to reverse without damage for temporary exhibits).

How: For poster putty, warm it up in your hands, then only use a little – not quite the size of pea – on each of the four corners.

Where: The putty (\$2+) and Command Strips (\$4+) can be found at your local hardware store and general art and craft suppliers, such as Michael's and JoAnn's (\$2+). The Command strips are pricey, but well worth it for the wear and tear they save your walls.

A Note on Larger Labels and Banners

Use for focal point, simplicity, and/or portability.

- You will likely need a good desk top design program (e.g., Adobe Illustrator, CorelDraw).
- Print at local printers, photo lab, or sign manufacturer (e.g., Fedex Office, Color One in Seattle, Print NW or KelTech in Tacoma, Fast Sign). Prices vary significantly, so shop around.
- Materials: print on paper, vinyl, adhesive-backed vinyl, canvas, polyester fabric, or direct print on substrate.
- Stiff substrates: ½" foamboard (\$9+/30"x40"), Gatorboard (\$55-60/4'x8' sheet), PVC board (e.g., Sintra \$80/4'x8'x6mm), coroplast. (Mount yourself or have them mount)
- Work with your printer to choose the right material and substrate for you needs and budget.

Audio

Audio Uses

- Background atmosphere.
- First–person stories (oral histories or readings from memoirs).
- Audio labels.

Sources

- Oral history collection (tapes must be converted to digital format).
- Sound effects from MS Word and other programs you already have.
- Royalty-free sound effects and music (downloadable MP3s available from Amazon).
- Narration recorded at professional sound-studio. Use actors or professional voice talent (tap the local community theater!), record at for-fee studio or a local radio station (they may donate the voice talent and the studio time).

1. Create your Audio

What: Create your audio clip.

How: Sony Vegas Movie Studio (\$95) can be used to do some editing and to create complex, layered audio clips. If you have to do a lot of clean up or other editing to a soundtrack, you may also want an audio software, e.g. Sony Sound Forge Audio Studio retails for about \$65.

Where: Office Depot, on-line retailers.

2. Decide on Delivery

What: Choose simple MP3 player, or programmable digital player.

How: If creating a simple background sound-track, use an off-the-shelf MP3 player connected to speakers. Put file on MP3 device. Turn on player each morning, and be sure it is set to repeat mode. For more possibilities, use a digital player, which can store and play more than one audio track, triggered by pushbuttons or with motion sensors. Players are wired directly to a speaker or to a handset. Numerous players are available and new ones are being introduced all the time. I usually use the CFSOUND player, which retails for \$300, and is very simple to set up.

Where: The CFSound player is made by ACS. They also have speakers, pushbuttons, and motion detectors (though you can buy these from other sources too). They even have prewired kits for the less tech-y. www.cfsound.com/index_CFSound.asp. Programming instructions are easy to follow, and support is very good. For handsets, I usually use the Gorilla Handset, <http://www.museumtech.com/Gorilla%20Handset.htm>.

Video

Video Uses

- Slide shows of historic photos.
- Video presentations that combine photos, narrative, and video.

Sources

- Photo collection.
- Film and VHS collection (film and tape must be converted to a digital format).
- See above for audio sources.

1. Decide on Delivery

What: Choose between a digital photo-frame, a TV with a DVD or USB, a TV with a solid state video player activated by pushbuttons or a motion detector, or a touch screen/player combo.

Digital photo frames are simple to use, and available in a variety of sizes. They can do photo slide shows, and some have video capability. The frame must be turned on each morning, and it will play the slide show on a constant loop (some come with motion activation).

For play on a TV and a single video that plays constantly, burn the video to a DVD or load it on a USB (check TV manual for acceptable file formats on USB) and set to play on a constant loop (make sure TV and/or DVD has that ability).

A TV, computer monitor, or touch screen connected to a solid state video player provides more options. A teaser loop plays constantly, and pushbuttons, motion, or touch screen options activate specific video(s).

How: There are many photo frame possibilities. Shop around. For solid state player connected to a TV or computer monitor, I've been using Akman (about \$350). Akman is constantly introducing new, upgraded products, so expect to re-evaluate each time you buy. If you want a touch screen, you will need a video controller that works with it, e.g. Roku's Brightsign (\$350), which works with ELO touchscreens (\$600+). I'm trying Videotel for the first time in a current project.

Where: Akman -- www.akman.com. Brightsign -- <https://www.brightsign.biz/>. ELO -- <https://www.elotouch.com/>. Videotel -- <http://www.videotel.com/vp71xd-industrial-digital-media-player-interactive>

2. Assemble and pre-edit your media

What: Use audio editing software to clean up audio from various sources, use photo editing software to "restore" historical photos.

How: See above for audio editing. Programs like Photoshop Elements (free or \$80) will do much of the basic photo-editing work (correcting contrast, brightness, scratches, cropping, etc.) And remember, most of the photo frames and TVs are widescreen format, so vertical pictures don't work well – crop to fit your frame. If you are editing for a photo frame, consider adding captions over the photos.

Where: On-line retailers.

3. Create your Video

What: Produce the video to work with your chosen delivery.

How: If using a digital photo frame to present a photo slide show, all you have to do is follow the instructions that come with the frame to upload your photos. To make a video for a photo frame, DVD, or video player, use a desk-top production program. Create simple videos with user-friendly, inexpensive programs, such as Windows Movie Maker (which can be downloaded, free, from the Microsoft Website). Simply drop in photos, choose “zoom and pan” options, add narration, audio clips, and music (they come with a few copyright-free tunes). For more options (e.g. layering) try Vegas Movie Studio Platinum (\$80). It is very simple to use, and has a lot of flexibility.

Where: Office Depot, on-line retailers.