

Take a Picture; It'll Last Longer

(How a ceiling mounted, digital camera helped improve preservation and access to a quilt collection)

Gaby Kienitz, Steve Happe, Mary Jane Teeters-Eichacker
Indiana State Museum and Historic Sites

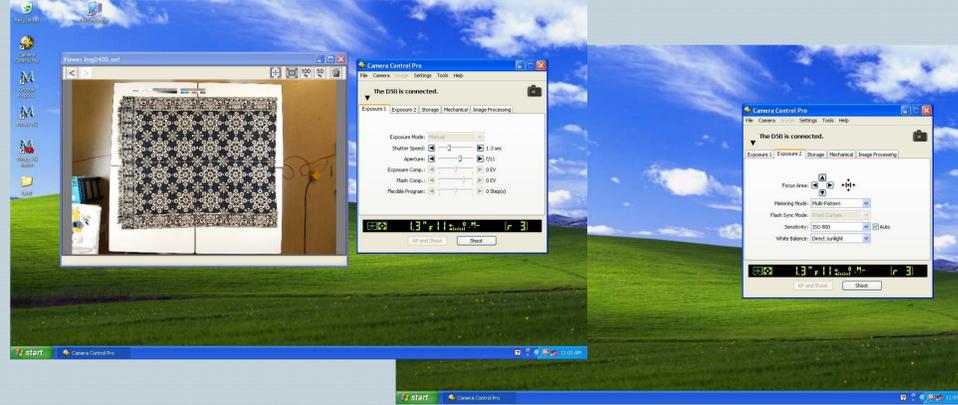
Introduction

For the past 8 years, collections and conservation staff at the Indiana State Museum have been steadily updating previously migrated catalog records containing scant information and few images. The goal has been to improve documentation, and thereby improve discovery and accessibility of the collection, make exhibition planning more efficient, assist in identifying at-risk artifacts, and reduce the need for handling of artifacts.

Quilts, and flat textiles in general, were a challenging group of artifacts because of the difficulty of determining how to photograph them on a flat surface without hanging them vertically.

With advice from the museum's staff photographer; a variety of photo equipment and software was used to create an overhead camera system. After initial technical issues were resolved, the system has been in steady use for the past 5 years.

Nikon Camera Control Pro Interface



Overhead Camera in Use



Materials

- Pipe clamps (or other supplies to secure bracket to the ceiling)

- Manfrotto Fixed Bracket with 5/8" Spigot



- Manfrotto FF3512A88L Pantograph Top 2



- Manfrotto 155 Double Ball Joint Head with Camera Platform



- Nikon D50 SLR digital camera (discontinued, newer models available) with Nikkor 18-55mm lens & included USB cable

- Belkin F3U130-16 16 USB Active Extension Cable



- Laptop

- Nikon Camera Control Pro (discontinued, Nikon Camera Control Pro 2.0 available)

- Kino Flo Image 45 DMX lights with True-Match® lamps on Photoflex Master Flip Top Stand and casters

Technical Concerns

Sensor size and camera distance from table surface affects camera and lens selection:

- Digital cameras commonly have smaller sensors than a film 35 mm camera resulting in field of view (FOV) crop. The D50 has a 1.5 FOV crop. In order for large textiles to be photographed on the 8 ft square table area, the lens was set at approximately 20mm focal length, with the camera placed 10 ft. above the surface of the table.
- Fixed focal length lenses tend to result in sharper images than zoom lenses.

Lens aperture:

- Keep aperture settings midrange; (ie. f/8 – f/11).

Image distortion:

- Vignetting, caused by incorrect lens shade use.
- Barrel distortion is slightly evident, because of the short focal length but is easily corrected with photo-editing software.
- Film lenses used on digital cameras can cause lens flare; because of different lens coating requirements.

Auto focus:

- Any solid colored, large, flat textile cannot be photographed using auto focus, including the backs of quilts. Passive autofocus typically found on high-end cameras, uses contrast in picture elements to work; without visible differences in the focus areas, autofocus fails.
- Keeping the location of the camera and the focal depth static (in the manual focus setting) prevents autofocus issues with solid colored textiles.

Lighting:

- Avoid shooting in mixed lighting conditions, to maintain color accuracy.
- Use a single, color balanced light type.

Power Supply:

- The camera should be powered with a reliable power source using the AC adapter; otherwise battery changes will require rearrangement of furniture, and climbing a ladder.

Data transfer – wired and wireless:

- Active extension USB cables may be needed for wired transfer.
- Wireless transmitters are available for many digital cameras.

Direct and Ancillary Costs

The equipment costs are variable depending on the quality of equipment and the type of set-up desired. The conservation lab already had a Nikon D50 camera and a laptop; the photographer donated a pantograph, and loaned his lights one day each week for over a year, before \$2,500 was finally allotted for purchase of dedicated lights. Original set-up cost, minus the previously mentioned items, was under \$500.

Image editing and linking of the images to the updated catalog records are final activities resulting in ancillary costs. The museum photographer, interns and volunteers have committed hundreds of hours to the project. Computers and photo-editing software are also required.

Mimsy Database Results

