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Digital application solutions in collections management : the photographer's catalogue database : case study : Sally Mann

Olga M. Dlugosz
Ryerson University

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DIGITAL APPLICATION SOLUTIONS IN COLLECTIONS MANAGEMENT;
THE PHOTOGRAPHER'S CATALOGUE DATABASE
CASE STUDY: SALLY MANN

by
Olga M. Dlugosz, BA Oakland University, Rochester MI, 2002

A thesis project
presented to Ryerson University
and George Eastman House International Museum of Photography & Film
in partial fulfillment of the
requirements for the degree of
Master of Arts
in the Program of
Photographic Preservation and Collections Management

Rochester, NY, USA and
Toronto, Ontario, Canada, 2007
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ABSTRACT:

The paper “Digital Application Solutions in Collections Management; The Photographer’s Catalogue Database, Case Study: Sally Mann” is part of the thesis project submitted by Olga M. Dlugosz in the partial fulfillment of the Master’s Degree in Photographic Preservation and Collections Management at Ryerson University in Toronto, Ontario and George Eastman House International Museum of Photography and Film in Rochester, NY, in 2007. The author proposes a working model solution for a digital collection catalogue database, in FileMaker Pro. The catalogue cross-references photographs, publications, exhibitions, sales, correspondence, and other activity incidental to a photographer’s career and body of work. The studio and archive of Sally Mann, an influential and highly regarded American photographer, is used as an illustrative example.

Many folks have aided my understanding of database logic and library science. Your contributions, from one-word answers to extensive diatribes, have all been instrumental in completing this project.

I would like to extend thanks to Sally Mann and her family for their trust and hospitality, my family for their unabashed cheerleading, my friends for their distractions, the natural landscape for providing respite and inspiration, and rock and roll for reminding me to keep it simple, stupid.

For W. Dlugosz.

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INTRODUCTION

This paper aims to define and describe the process of organizing information within a photographic archive into a database, with the dual aim of managing an active studio, and organizing and managing an artist's estate. For both applications, the enlistment of the database for collection management simultaneously provides a framework into which information about photographic prints and their use can be organized (in essence, this facilitates compiling information relevant in a catalogue raisonné). The two goals are quintessentially identical; the artist's studio tracks the process of creating work, of exhibition agreements, and approved publication instances, and sees to the sale of prints, through galleries or as a direct vendor. The mid-career or posthumous catalogue raisonné organizes this information in an indexed reference-resource format, and additionally traces the re-sale of prints and notes exhibitions of which the artist may not have been aware.

The database framework can note and solidify links both overt, such as object history, and those which exist only informally, as in verso inscriptions or notes on; in a structurally logical and well-populated database, the printing and subject information, bibliography, and history of a photograph can be immediately accessed. The database can be described as a continuing bibliographic resource, deliberately designed to accept updates, but also to accommodate on-going use. There is no predetermined conclusion for the project, only growth in both the framework of the database, and the data within.

For the sake of this project, the terms studio, archive, and estate will be used to describe collections. Concerning the database, these function in much the same manner, and have similar needs.

1. DESCRIPTION OF THE FINAL PROJECT

For completion of the thesis project requirements, I have created a working database, and begun the process of implementing it into the function of an artist's archive. In this paper, I will explain the database model I propose to organize archive information regarding photographic prints and negatives, and their subsequent public use. The database, built with the FileMaker Pro 8.5 database development software, is not included in this bound volume, as it is anticipated that the change of technology will soon render this version obsolete (as FileMaker is a proprietary software, one can assume a persistence of the software itself, albeit in improved versions). Committed to the usefulness of the project, I expect to continue to update and improve upon this model, and manipulate it to best answer the needs of the various archives it will serve. The written thesis explains the database's functions and structure, represents my work thus far, and provides the reader with a solid foundation in planning their own collection management system.

I have decided to create the database as a FileMaker Pro application, as using an out-of-the-box software is a more likely solution for an artist's archive than a more expensive custom-built database software. The FileMaker Pro database can be implemented without the knowledge of computer science or software development.

The database is meant to function alongside the collection, as a guide and finding aid, and a source of quick reference. A database can never supplant the need to reference an original object, although digitally mediated access can aid in using the archive responsibly and efficiently (i.e., without needless disturbing of prints). It serves to organize all the information and history associated with the object, allowing the photographer/studio manager to organize and store information, and the researcher to perform research upon this primary material.

To better illustrate how the structural database model can be applied to a photographic collection, I have created a version of the database to specifically catalogue and describe the images and history of the impressive archive of photographic work by Sally Mann, with whom I worked during the summers of 2006 and 2007 to organize and update studio records.

Imposing a digital asset management system is always problematic—no solution can work for all. My proposed database model can be modified and amended to suit the desires of the collection manager/photographer. It is essential that a database, often approached with dread and weariness by an artistic soul, fits the needs and expectations of the photographer, and remains an aid, not a cumbersome hindrance. Working to create a solution for a complex archive, and using the collection as a benchmark and testing ground for various solutions, I have been able to repeatedly assess the ideas and logic of the database model in a real-world scenario. Applying this database to another archive, the data structure I propose can be utilized as is, by simply omitting fields which do not relate, or can be conveniently and easily modified to reflect the real needs and intricacies of the collection.

The intended audience for this research and database model is persons interested in utilizing collection management software in an actual studio archive. This paper will likely be redundant for database designers, and beyond the interests of archivists uninvolved in the complexities of representing a single person's work in a digital application. This paper aims to provide guidance and an illustrated example of one use, and one application of existing software to photographic collection management practices. The conclusions of research and opinions contained within are intended to serve as an example and a base, not an end-all solution. I anticipate that users of this thesis will build upon the provided structure to create more sophisticated and streamlined projects, using the information provided to inform (but not influence or dictate) their decisions.

2. BRIEF INTRODUCTION TO SALLY MANN'S STUDIO

Sally Mann was born in 1951 in Lexington, VA, where she still lives and works. She began photographing as an undergraduate student, and continued to practice during her MA studies in writing. Save a workshop with Ansel Adams in these early formative years, she received no formal training, and remains a largely self-taught practitioner. In these early years, she took on various photographic commissions locally, and was involved in reprinting the glass plate negatives of nineteenth century Virginia photographer, Michael Malley for a book on local history.¹

Her first major project was a study of adolescence, published as *At Twelve: Portraits of Young Women*,² and exhibited also under the title *Sweet Silent Thought*. Faced with the challenges of home life as a mother of 3, she turned her camera to her children and created a series of allegoric and lyrical photographs alluding to the works of previous masters in painting and photography. As her introduction to the book *Immediate Family*³ explains, the images represent her children during a specific summer but imply a more universal idea of childhood, rife with unanswered questions about the physical bodies and world we inhabit, and the impalpable realms we create to escape them. As mother to her subjects, Mann's photographs in this series bravely confront the discrepant feelings of love, fear, guardianship, and ambivalence in motherhood, providing an antithetic argument to the cultural conceit surrounding maternity. This multifaceted complexity of the work cannot be understood at a mere glance; the underlying themes were not grasped by many reviewers, most significantly Senator Jesse Helms, then working to limit NEH grant funding for what he considered immoral and unsavory art. As *Immediate Family* often depicts the Mann children in the nude, soiled with dirt, or marred by cuts and bruises, the work was pejoratively categorized as verging on pornography and abuse, although it was very well received within the arts community. Used to illustrate the

public debate on censorship vs. artistic freedom, the images from the Immediate Family series were cropped and crossed out on the pages of the *Wall Street Journal*,⁴ informed post-feminist art critiques in doctoral theses,⁵ and were paraded as examples in diatribes on the contemporaneous cultural ills.⁶ This only increased the images' popularity, prompting several instances of copyright infringement.⁷ Simultaneously, Mann was celebrated for the freshness and power of her vision, and the images were shown in galleries and museums world wide, and readily acquired by renowned collectors. Inadvertently a celebrity, Mann spoke on radio and television panels, as well as roundtable discussions coinciding with exhibitions, and was the subject of the short documentary film *Blood Ties*,⁸ nominated for an Oscar in 1992.

Mann's subsequent projects include the melancholy series of collodion-negative landscapes produced 1992 – 1997, *Deep South*⁹ and *Motherland*.¹⁰ The images have been used to illustrate varied publications, including tomes of poetry by Forrest Gander¹¹ and a compilation of conservation papers discussing photographic coatings.¹² Her successful and highly praised series *What Remains*¹³ frankly discussed the passage of life, the inevitable decay of the physical form, and the affirming persistence of love, memory, and the ephemeral connections made between human souls. These images were referenced in the PBS contemporary art series *art:21* series,¹⁴ a BBC Channel 4 series on the history of photography,¹⁵ and the award-winning full-length documentary, *What Remains*.¹⁶

Sally Mann was named "America's Best Photographer" by *Time Magazine* in 2001, and was awarded an honorary Doctorate of Fine Arts by Corcoran College of Art & Design in 2006.

As any devoted artist and artisan does, Mann has managed and organized her collection accordingly with her needs and uses (certain aspects of this work, such as the compilation of press clippings, were performed by the galleries representing her). Her photographs are continuously toured and exhibited, and subsequently written about. Though at the time of writing the Immediate Family series images are off the market, residual sales of the photographs by other agents continue. Most recently to the time of writing, on May 31, 2007, the 5/25 print of "Cherry Tomatoes" was bought in at a Christie's auction in London. At present, two shows including images from the series *Battlefields*, *Faces* (both published in *What Remains*), *Immediate Family*, and *Deep South* are touring throughout venues in Scandinavia. Current

studio portraits, self-portraits, and still-lives, collectively called *The Given: Studio Work*, along with prints and ambrotypes from *Faces* and *Eva's Bones* (also part of *What Remains*) were recently a featured exhibit during the Charlottesville Festival of the Photograph (June 7 – 9, 2007). Thus, the records in the catalogue database must be continuously updated for accuracy.

Adding to the monographs, exhibitions, and unusually broad spectrum of published instances for her images, Mann has also used ill-printed photographs as a visual letterhead: prints deemed unsuitable for sale or exhibition, flawed in some “fatal” way, fit only for the “bonfire,” were written upon, unscrupulously folded, and sent off through the mail. Although not significant to the photographer presently, these will become invaluable records of both correspondence and darkroom practice, and should be noted in the database.

In my first summer of work with Sally Mann, the constraints of time limited our thorough examination of the studio to the *Immediate Family*— the most expansive series, shot continuously over a period of 10 years, with the largest edition (25) of 8x10 and 20x24 prints. During the internship, we evaluated photographs for condition and desirable appearance, and also for their appropriateness to the final, edited grouping of images. Within the series, there are both sold-out photographs and photographs not yet printed to the full edition number. Many incongruities exist with past collection inventories: photographs shot as part of *Immediate Family* series were printed and sold, but are not currently included in the edition (“Self-portrait with Children,” “The Black Horse,” “Arrow through my Heart,” “Carlo’s Pond,” “The Question”). Alternate images with a different cropping or composition have been published (“The Last Time Emmett Modeled Nude” and “Three Generations”), and prints now dropped from the edition have been exhibited with the series (“Lorelei’s Goodbye”). On an ongoing basis, the series is re-edited, and the titles of images change (“Larry Peeing” to “The White Hat”).

The data gathered for the database was compiled during the first year’s internship period into Excel and Word files. The scope of these documents includes all information about *Immediate Family* prints ever included in the edition, some exhibition information, and all publication instances retained by Sally Mann or found by me (the publications records are updated to June 2007). The database was developed with this existing information in mind, aware of the ways it can and does

correlate, during the winter of 2007. Having built the framework for organizing information within Sally Mann's studio, I can continue retrospective research into exhibitions and existing series, and/or build records for newly created work. This aspect of studio management, however, is not within the scope of this thesis, which only proposes to share my tested, working, and easily applied structural model.

¹ Henry Bolley and Salley [sic] Munger Mann, ill., *Lexington in Old Virginia* (Lexington, VA: Garrett & Massie, Liberty Hall Press, Washington & Lee University, 1936, 1974).

² New York: Aperture 1998.

³ *Immediate Family* (New York: Aperture, 1992).

⁴ Raymond Sokolov, "Critique: Censoring Virginia," *Wall Street Journal*, February 6, 1991, A10. The black-barred illustration shows Sally Mann's "Virginia at 4," which was the then-current cover of *Aperture* magazine, themed "The Body in Question" (Fall 1990). Richard Goldstein, in "The eye of the beholder," *Village Voice*, March 10, 1998, 32 – 36, reprints a poster used in an unsuccessful campaign to ban the sale of art books promoting child pornography from Barnes & Noble's stores. The poster features the photograph "Rodney Plogger at 6:01am" with black bars across Virginia's body.

⁵ Barbara Ann Churchill, "The Lolita Phenomenon: The Child (femme) fatale at the fin de siècle" (PhD diss., University of Alberta, 2003); Ellin Ronee Pollachek, "What Similarities and Differences, if any, can be perceived from an analysis of the critical responses to transgressive art in two different artforms" (PhD diss., New York University, 1999); Laura DiPrete, *The Wound that Wounds: Trauma, Subjectivity, and Vision in the Photography of Sally Mann* in "Foreign Bodies: Trauma, Corporeality, and Textuality in Contemporary American Culture" (PhD diss., University of South Carolina, 2003); Jane Fletcher "Grim Fairy Tales?: The Uncanny Effect of Sally Mann's *Immediate Family*" (master's thesis, University of Leeds, 1996 revised 1998);

⁶ Anne Higonnet, *Pictures of Innocence: The History and Crisis of Ideal Childhood* (London: Thames & Hudson, 1998) reproduces "Popsicle Drips" (195), "Last Light" (202), "The New Mothers" (203), and "The Ditch" (204); Letters to the editor, *New York Times Magazine*, (October 18, 1992), 12, 14 reproduces a detail of "Crabbing at Pawley's," used as the previous week's cover with the headline "The Disturbing Photography of Sally Mann"; Ann Weinstein "Die Sexualisierung des Mädchens Als Frau," *Katalog* (April 1999): 36 – 38 uses images of "Jessie as Jessie" and "Jessie as Madonna"; Doug Babington, "Sexual Outlaws and the Posses of Hearsay," *Queen's Quarterly: A Canadian Review* 100, no. 2 (Summer 1993): 491 – 503 deconstructs the latent sexuality of "Emmett and the White Boy."

⁷ Kathryn Harrison's *Geshonded* (Random House, Meulenhoff: Amsterdam, 1993) uses a detail of "Fallen Child" as its cover; Michael Arditti's *Pagan and her Parents* (London: Sinclair-Stevenson, 1996) appropriates "Jessie at 5" into a watercolour cover illustration.

⁸ Steven Cantor, director, (1992).

⁹ *Deep South* (New York: Bullfinch, 2005).

¹⁰ *Mother land: Recent Landscapes of Georgia and Virginia* (New York: Edwynn Houk Gallery, 1997).

¹¹ *Lynchburg* (Pittsburg: University of Pittsburg Press, 1993); *Science & Steepleflower*, (New York: New Directions Press, 1998); *Torn Awake* (New York: New Directions Press, 2001); and, with Sally Mann, *Conjunctions: Eye to Eye, a Portfolio of Writer/Artist Collaborations* (Bard College) 32 (1999).

¹² Cyntia Karnes and Katherine Jennings, "Contemporary Artists' Perspectives on Coating, Lamination, and Face Mounting," in *Coatings on Photographs: Materials, Techniques, and Conservation*, ed. Constance McCabe (Washington, D.C.: AIC Photographic Materials Group, 2005), 346 – 356.

¹³ *What Remains* (Boston: Bullfinch, 2003).

¹⁴ art:21 "Place," Susan Sollins, Executive Producer /Curator, Susan Dowling, Executive Producer, and Catherine Tatge, Director. Originally aired September 21, 2001 on PBS. Accompanied by website, <http://www.pbs.org/art21/artists/mann/index.html>, and anthology by Thelma Golden, ed., *art:21 Art in the Twenty-First Century* (New York: Harry N. Abrams, 2001).

¹⁵ *The History of Photography* (BBC Channel 4 Productions, Wall-to-Wall media Ltd, 2006)

¹⁶ Stick Figure Productions, Steve Cantor, director, (2004).

3. A PHOTOGRAPHIC ARCHIVE IN CONTEMPORARY CONTEXT

The artist's studio is a highly variable entity, particular and idiosyncratic, run in specific ways and for specific purposes, tacitly recognized by the photographer who runs it. The artist's archive, consequently, presents a particular and idiosyncratic puzzle for a collection manager more or less familiar with the singularly meaningful method and cipher employed by the photographer, and working without direction and explanation of the artist. A database system imparts a structure and logical framework for the photographer's collection, necessarily avoiding ambiguity by succumbing to a logical data modeling structure; it can provide for understanding of the artist and the magnitude of the collection's use after it leaves the artist's hands.

Of course, estate planning is rarely at the forefront of a photographer's activities. The care of photographers' archives continues to be an undertaking largely without precedent, a job put most often in the care of the family (spouse, children). The task requires a multi-disciplinary approach—an impersonal clarity of mind, an understanding of tax law, a working knowledge of photographic preservation, and sensitivity to the significance of the art. The database essentially comprises all the information known now to be important in a modifiable and searchable format. In this aspect, it functions as a digital catalogue raisonné—a project whose published format is continuously redefined through the dauntless efforts of authors and researchers.¹ Such cataloguing projects are challenging, though, due to the inextricable characteristic of photography—there usually exist large numbers of the same image, with slight disparities. The diverse use and variation of these images in publication only adds to the trouble of accurately representing the artist's oeuvre. Determining between work, exhibition, press, sale, and other prints without the insight of the artist is difficult task, burdened by presumption. Without a clear understanding of what the singular prints are, it is very difficult to evaluate the

artist's method, approach, and style. A database incorporated into the artist's collection can provide this information, preventing misrepresentation of the work. Even more preferably, working alongside an artist, a collection manager is able to collect and log the ancillary anecdotes about the inspiration for and creation of images, and how the artist determined their aesthetic merit.

Irrespective of the collection's final use, a database provides a key and an index to the work within. The collection becomes immediately accessible through logically reasoned organization, the records of associated information are already present, and retrospective study and curatorial examination can immediately begin. The financial value of the collection can better be assessed, as there is information about the sale of photographs, and about the number and quality of prints remaining in-house, negatives, diaries or daybooks, letters, exhibition announcements, and various darkroom ephemera.

An artist's photographic archive, containing an entire body of work, with negatives and incidental items, functions as an integrated entity. As photography continues to grow in popularity and marketability, outperforming all other art forms over the past 15 years,² not only singular prints, but also entire archives realize high prices. In a 2006 Paris auction, Brassai's photographic archive was sold for \$6.5 million, double the pre-sale estimate.³ With such high costs comes an elevated responsibility to ensure the accuracy of provenance and value. Because of the propensity of photography to reproduction, even in the case of an intact archive, the concern of validity of provenance is not entirely avoidable. The effort to organize and value the archive of Man Ray, begun 12 years after his death, turned up the conspicuous absence of around 4,500 negatives, and brought to light that posthumously created prints (albeit from original negatives) are offered on the market as vintage prints.⁴

Photographers' estate collections are often absorbed by cultural institutions, which are better suited than heirs to deal with long-term preservation and access (Arizona's Center for Creative Photography holds over 60 artists archives, and continues to collect new archives and expand existing holdings). Sometimes, collections are turned into private archives or foundations, such as the Lee Miller Photographic Archive (www.leemiller.co.uk) or the Josef and Anni Albers Foundation (www.albersfoundation.org). The appropriation of whole estates by institutions is a practice which encourages study and reconsideration of an artist, as it allows full

research into the life and works of the artist through an entire body of work, supported by evidence of darkroom experimentation. The inevitable question arises whether work prints should be treated differently in exhibitions, and in establishing an artist's oeuvre. Although photographers inevitably create more than one shot of a given tableau, not all of the negatives (and fewer of the resultant prints) can be valued the same way. In the assessment and appraisal of the 60,000 object photographic archive of the Andy Warhol estate, two reputable dealers separately reported the value as almost \$4 million, and over \$80 million. In the lower estimate, some of the prints were seen as work prints, not singular art works.⁵ A database can explain the *function* of prints. (These can then be re-analyzed by ardent curators).

Though during their career, artists can control the way their photographs are viewed and limit access to work prints and negatives, posthumous retrospectives often aim to showcase exactly these "unseen" works, exposing the photographer's shooting and printing trials and errors. The recent retrospective of Henri Cartier-Bresson's copiously annotated contact sheets at International Center for Photography in New York laid bare the process of arriving at the decisive moment. The preliminary photographic studies, or second and third takes, are vital to a scholarly reading and critique of Cartier-Bresson's work, and become part of the complete catalogue raisonné. Similarly, the Center for Creative Photography's exhibition, Harry Callahan: The Photographer at Work (January 27 to May 7, 2006), included heretofore unseen prints and full contact sheets, laying bare Callahan's creative approach to printing, and shooting experiments. It is exactly because these later analyses inform our understanding of a photographer's style that a differentiation between work and final prints must be made. A database inventory helps make that distinction.

It thus seems significant to retain and document everything, but the organization of everything is troublesome. Museums and galleries have considerable intellectual resources and existing digital applications for the classification and arrangement of institutional materials—however, the caretakers of a studio or archive must often determine an appropriate cataloguing method on their own. The information is likely recorded in puzzling methods and notations, separating the print catalogue and production details from registrarial information about exhibitions, publications, and associated information specific to an artist. This paper and the database project

present a useful resource and example for such challenges in photographic collection management.

It is possible to retroactively create a full record of an active studio, searching through varied sources such as correspondence, day book records, exhibition catalogues, financial records, loan agreements, newspaper cuttings, and the backs of prints,⁶ but these sources are enlivened and enriched by the artist's input. If care is not initially taken to preserve and organize the legacy of a photographer for the use of posterity, gaps in cultural and art history can easily occur if the supporting material of legends to reading darkroom notes on the backs of prints, and private accounts of every day life is not judged as invaluable as the prints. Creating a complete record of an archive retrospectively, without the aid of the artist, can miss the intricacies and untold stories in the wonderfully perplexing milieu of an archive.

¹ Partial catalogues of photographers' works include Kathleen Stewart Howe, *Felix Teynard: Calotypes of Egypt: A Catalogue Raisonné* (New York: Hans P. Kraus, Jr.; London: Robert Hershkowitz; Carmel, CA: Weston Gallery, 1992); David Harris, *Eugene Atget: Unknown Paris* (New York: New Press, 2003); Janet Dewan, *The Photographs of Linnaeus Tripe: A Catalogue Raisonné* (Art Gallery of Ontario, 1986); Heidi Naef and Theodora Vischer, eds., *Jeff Wall: Catalogue Raisonné 1978 – 2004*, (Basel: Schalueger; Göttingen: Steidl, 2005), and other publications.

² Michael Z. Wise, "Photo Opportunity," *Art & Auction* 29, no. 9 (May 2006): 38A.

³ "Sales of photographers' archives and estates have grown in popularity," *ARTnews* 105, no. 11 (December 2006): 102, 104.

⁴ Steven Manford, "An Inquiry into the Fate of Man Ray's Negatives and Studio Stamps," *IFAR Journal* 7, no. 2 (2004): 27 – 30.

⁵ *ARTnews* 94, (February 1995): 100 – 103.

⁶ Suggestions on managing a photographic collection and retrospective documentation can be accessed through the Collections Link library and museum collaboration.

http://www.collectionslink.org.uk/manage_information/doc_retrospective/retro_doc_factsheet. Last accessed May 17, 2007.

4. LITERATURE REVIEW

A survey of scholarly, popular, and professional literature shows that research into databases for photographic collections primarily considers image databases with small amounts of metadata supporting the image (title, maker, year). There is little written emphasis on contextualizing visual work into a broader framework of exhibitions and publications, and supporting both visual and extensive textual (metadata) information. Although I was not able to find any direct reference to the utilization of database systems for individual photographers' collections, a substantial amount of research papers, meeting notes, and case studies is available regarding digitizing institutional collections, and the database organization of resulting digital image collections. It bears repeating that the model I propose does not involve high-quality digital surrogates of reproduction quality (these would make the database unmanageable for a desktop computer). The database is populated by images with a size and resolution appropriate for screen display: it is only an access key to the collection.

The description of digitization efforts by museums and libraries offer some insights and points of reference for this project. The following are a sampling of such books:

- Chapters in *Moving Theory into Practice* compile information about digitization projects within museums and libraries.¹ The anthology focuses mainly on the creation of digital surrogates and managing digital image collections, but the theoretical information can serve as guidelines for other image/information database projects as well. The resource also offers an extensive bibliography.
- Christie Stephenson's report on "Recent Developments in Cultural Heritage Image Databases: Directions for User-Centered Design" provides a good overview of the desired functions of an image database.² Similarly, Hinda Sklar's report on "Why

make images available online: user perspectives,” delivered during the RLG symposium, provides insights into database requirements to optimize usability.³

- Jennifer Trant’s report “Image Retrieval Benchmark Database Service: A Needs Assessment and Preliminary Development Plan” was instrumental in organizing the wealth of information about recent research and development in image database systems.⁴

- Michelle Dalmau, Randall Floyd, Dazhi Jiao and Jenn Riely’s study on “Integrating thesaurus relationships into search and browse in an online photograph collection” points out the benefits and increase of hits through the use of suggested and arbitrated database searches.⁵ James M. Bower’s “Vocabulary Coordination Projects in the Art Information Community” provides insights into the efforts to harmonize database catalogue vocabularies across cultural institutions.⁶

- For my own understanding and use of the FileMaker software, I found the Missing Manual series book an invaluable resource, and recommended the reference for anyone who uses the program.⁷

¹ *Moving Theory into Practice; Digital imaging for Library and Archives*, Anne R. Kenny and Oya Y. Rieger, eds. (Mountainview, CA: Research Libraries Group, 2000).

² *Library Trends* 48 (Fall 1999): 410 – 437.

³ The proceedings from the Research Libraries Group symposium held March 31 – April 1st in Palo Alto, CA were compiled *RLG Digital Image Access Project*, edited by P. McClung, (Mountainview, CA: Research Libraries Group, 1995).

⁴ Prepared for the Council on Library and Information Resources and the Coalition for Networked Information: 2003, 2004. Available from www.clir.org/PUBS/reports/trant04.html.

⁵ *Library Hi-Tech* 23, 3 (2005): 425 – 452.

⁶ *Bulletin of the American Society for Information Science* (December/January 1992): 19 – 21.

⁷ Geoff Coffey and Susan Prosser, *FileMaker Pro 8: The Missing Manual* (Sebastapol, CA: O’Reilly Media, 2005).

5. PRODUCT REVIEW

My database solution combines image data with a rich textual context. A thorough search of marketed image database software found such a solution is not common; available programs mainly function to organize images into files, and provide only for a simple filename search. Database systems marketed to photographers (and therefore to single-artist archives) include Extensis portfolio, Access Image Albums linked to an Access database, Image Vault, AD Picture Index, Picture Library, Lightbox, or Aperture, and others. Designed for born-digital images, they record metadata inherent to digital images (camera, device, time of capture), and incorporate image manipulation tools or link into Photoshop. This sort of metadata is not useful to those trying to find a photograph based on content.¹ The products do not offer fields for publication, exhibition, sale, and other information.

Larger institutions can benefit from the software applications proposed by Gallery Systems (TMS or TGS) or chose among Luna insight, EmbARK, PastPerfect, adlib, Modes, Calm, or various DSpace database software. These, however, cost thousands of dollars to purchase, implement, and upkeep, and provide far too many options to be convenient for a small operation.

The only product comparable to my project is Studio by Art Systems, available for \$795, and compatible only with PCs. The database I created has the same functions and capabilities, is less expensive, compatible across platforms, has more dynamic user interfaces, and is adaptable to the specific needs of private archives. Similarly to my project, Studio divides the work into distinct modules: Works, Contacts, Editions, Transactions, and Catalogue. Like my database, it stores data, updates all related records when changes are made, and allows for navigation between related records. With the purchase of additional software, it can integrate into websites and create archival digital files (essentially back-ups) of documents, correspondence,

worksheets and spreadsheets.²

The significant functions common among these products are an interoperability in importing and exporting with other common proprietary software programs used for collection reports (such as Excel or Word), web compatibility which provides broad access to collections (each of these systems also has methods of limiting access, if necessary), and efficiency in terms of speed and accuracy in searches (which depends on quantity of records, on quality of data, and on indexing). These functions are all available in FileMaker software.

Initiating this project, I anticipated the database's purpose and function; in my search for an existing digital application, my needs were unmet. Among these products, a distinct methodology is missing. The focus of the softwares is to organize large numbers of records for fast recall. My intent for the database is to produce a catalogue which integrates information about the creation and use of the objects, supporting research among relationships.

¹ Trant.

² The product advertisement is available through <http://www.artsystems.com/index.htm>.

6. THE USEFULNESS OF A DIGITAL COLLECTION CATALOGUE

A digital collection catalogue is a database which provides a “dense web of information including names of people and places, dates and associations related to the production, use, and ownership of the object.”¹ The relational database allows cross-referenced collection inventory to be immediately seen, and immediately applicable to the necessary operations (business) of the studio, or to guide archive research questions. A relational database serves the collection much better than a flat-file computer program, such as Microsoft Excel or Word, as it grants an intellectual and factual context, storing images and their related information in a single application, accessible through a cohesive set of interfaces.²

Although artists are sometimes reluctant to bother with the tedium of registrarial work, the implementation of a database collection management system is very beneficial to a photographic studio or archive. Succinctly,

“An image/data management system can search for/store information, provide an access interface, create a contextual and structural framework for images and data, control access to data, create an audit trail, provide an inventory, and allow for some validation and controlled language.”³

Within a studio, the database can provide quick reference, or automate repetitive or mundane tasks. It performs the supporting function of a file cabinet, keeping records of exhibitions and publications, but the photographer can also use it to track print availability and sale orders.

When it becomes the collection catalogue to an archive, the database becomes the primary reference to the contents and scope of the collection, and its already multifarious uses broaden. As an inventory, it provides collection managers a full audit of the contents of the archive. The uncomplicated, methodical organization of a database permits and facilitates use and understanding of the archive by researchers

and collection managers. Translated into a website, a cohesive database can allow (limited) remote access to the collection, as with the Lee Miller on-line archive; the ideas, facts, and intricacies of the collection can be widely disseminated. Though nothing can take the place of primary research, database access allows for most levels of research, as well as pre-planning for an archive visit.

The basic and primary functions of the database are to:

- 1.) Perform a range of searches on both simple and complex queries using controlled vocabulary and key words;
- 2.) Search many collections in a single search from one location;
- 3.) Facilitate the discovery of unknown resources.⁴

These requirements apply directly to more sizeable and thematically varied collections, but can also describe a database with a narrower range. In regards to a controlled vocabulary, “customized” search terms inevitably make a search more precise, though utilizing them must assume the user has some level of familiarity with the artist’s work.⁵ The institution’s “many collections” can be understood as many types of records or documentation in an artist’s archive—such as publication, sale records, correspondence regarding films or radio appearances, etc. Thirdly, the database is clearly useful in general research for factual information related to specific images. Though the search terms and forms in a relational database suggest the possible paths for research, there are many ways to evaluate and interpret the data.

There is an ongoing interest in exploring the reciprocal relationship of art and culture, forging an understanding of art in a cultural and social context. Coalescing the photographic object with all of its associated documentation creates an integrated resource useful in multidisciplinary academic research.⁶ The database provides all known information to the researcher, who is able to infer patterns and tendencies, and make new discoveries. The cold facts of the database provide quantitative measures, from which qualitative conclusions can be interpolated. For example, searching through the exhibition records, one can see the print selection for a city, and also find the press reviews for the show; this data can then be compared with the print selection/public response for other cities. The researcher can evaluate and compare the varying response to the book “Immediate Family” in newspapers and in press serving the art community, how shows of certain work in a

given gallery influenced sales, and how reactions to the images varied between gallery or museum shows, the book, and hearsay.

¹ Bower.

² Two main types of digital repositories exist: content and context based. Content Based Image Retrieval (CIBR) systems perform searches based on texture, color, or pattern within an image file. Context based searches find images and information based on associated data (such as title, medium, maker). While interesting in their potential, CIBR systems are not practical or warranted for a photographer's collection management solution—if only for requiring high resolution scans of all information to perform a thorough search. Plus, as the emphasis is on the data associated with the photographs anyway, the collection is better served by a context-based queried database (such as FileMaker).

³ Peter B. Hirtle, "Image Management Systems and Web Delivery" in *Moving Theory into Practice; Digital Imaging for Library and Archives*, edited by Anne R. Kenny and Oya Y. Rieger, (Mountainview, CA: Research Libraries Group, 2000), 119.

⁴ Sklar.

⁵ It is assumed that a researcher would possess a basic knowledge of Sally Mann's work, specific to geography (Battlefields, sites in Mississippi, Georgia, etc.) and subject (Larry, Jessie, Eva the dog). A search on broad geographical locations or generic subject terms would yield imprecise results. Controlled vocabulary is discussed in more detail in Chapter 14.

⁶ Bower.

7. PLANNING FOR THE DIGITAL CATALOGUE

This section discusses the issues which must be resolved before creating a database solution. Photographic collections present rich and complex problems for the often-rigid database model. It is not impossible to get around the intricacies, although it requires great conceptual flexibility. The collection's parts are correlative entities, which function as an integrated and cohesive whole. Though it may seem that photographs are to be favored in a collection catalogue, there is no real internal hierarchy, only an organic web of internal dependencies. The collection must nevertheless be constrained into a structured digital application.

Traditional darkroom photography is an unusual art, not lending itself easily to categorization and tracking. Unlike printmaking, painting, or even film, the creation of photographs is inconsistent and ad hoc. A photographic negative can be reprinted an infinite number of times, on various papers, and with various toning or finishing procedures. Even direct-positive photographic objects such as daguerreotypes, ambrotypes, or tintypes, regarded as unique originals, can be copied in the same or another medium.

In designing a working application, I consulted with potential users of the application, as well as persons much more accomplished than I in database design, to aid me in creating a working solution,¹ and have also utilized the following guiding principles to create a logical and well-structured application.

In designing a database, Lindermeler and Stein propose evaluating the project's aims through the following User-Task-System model:²

- 1.) For whom are we building an image delivery system?
- 2.) What is it we are building, and for what purposes do users want to use it?
- 3.) What kind of functionality do our users need to use what we build?

Hirtle adds considerations of public access, the option to update records, the ability to track changes, the feasibility of database maintenance (including technical support), and cost.³ I have considered these questions, and the options, and developed a database which answers the needs of the studio for which it was created.

The Entity Relation Diagram (ERD) in Appendix A shows how the mutually correlative aspects of the collection can be organized within a single database. The relationships between entities are evident: for example, Publications are written by Authors, reproduce Photographs, and promote or review Exhibitions, Films, Television or Radio shows. Some intricacies, specific to Sally Mann's studio, bear explaining. The possible relationship between Correspondence and Photographs is physical, not referential, as Mann often writes letters on the versos of photographic prints. Although Negatives refer to the same Locations and Subjects as their corresponding Photographs, the diagram does not reflect this, connecting these entities with Photographs only. During my internship, our inventory and cataloguing included only the printed, editioned images from the Immediate Family series. No unprinted negatives have been digitized into the database. Thus, I chose to concentrate on the information regarding a printed (or exhibited, published) image. At some point, an assessment of the subject/locations of the unprinted negatives may take place. This illustrates the simple truth that unless one is working directly with a collection, it becomes impossible to design a database solution for its organization: a significant argument for projects such as this thesis.

¹ Logistical assistance: Peter C. Jones, director Center for Creative Photography and freelance curator, Carl Chiarenza, Photographer, Heidi Chiarenza, photographic collection caretaker. Database assistance: Laurie Soares, Manager of Collections Information, George Eastman House, Ryan Donahue, Webmaster, George Eastman House, Trevor Gildersleeve, Data Architect, Thompson-Gale Research.

² Lindermeier and Stein, "User requirement analysis in the museum and art history field for advanced computer system design," *Computers and the History of Art* 1 (2): 39 – 53.

³ According to Hirtle, a logical and lasting database must conform to data systems (SQL, ODBC Open Database connectivity). This is automatic with FileMaker software. (119)

8. MODELING DATA TO COLLECTION INTRICACIES

Translating the ERD into a FileMaker database, I have created the table structure seen in Appendix B. The first figure shows the relationship graph in its entirety, while subsequent figures focus on specific aspects of the graph: Photographs and Negatives, Exhibitions, Publications, Sales, and TV/Radio/Film tables. Appendix C provides a detailed explanation of each table's fields. Appendix D includes all of the database interfaces, which illustrate the application of these considerations.

Avoiding redundancy

The database is normalized¹ to prevent the existence of redundant data, and the data structure avoids including information in a table if it can be borrowed from a related record. Thus, while both a Photograph and its Negative represent a Location and a Subject, in this database, only a Photograph record notes this information. It becomes redundant to additionally list these fields in a Negative record, as the information is already available by consulting the related Photograph record. Similarly, a record in the Negative table does provide a Title row, as the title is generally bestowed on a Photograph (a print). If this Negative was printed, the title can be found in the related Photography record. This arrangement illustrates that within this particular digital archive, Photographs (not Negatives) are favored as subjects of searches and organization within this archive.

Dating Photographs and Negatives

In a photographic collection, a photograph is the referent of zero, one, or more negatives. The negative can also be a copy negative, in which case it is necessarily related to more than one print: the one it copies, and the one it produces. Subsequently, it would also have different production dates. Collaged work and copy negatives are not common in Sally Mann's archive, but direct-positive photographs (ambrotypes) are. Thus, the relationship of Negatives to Photographs is one-to-one

(or none at all), and can be expressed by linking the tables with a foreign key.² The ambrotypes are unique photographic objects: their date of creation, then, can only be found in the Photographs table. For previous film-based series, in which prints were dated by the production date of the Negative, a date field in the Negative table would be more appropriate. As a compromise, the date field is recorded in the Photographs table, and related negative records can display the date from the Photograph record.

Referencing a Series

Because generally, only positive images are included in an edition, only the Photographs table (and not Negatives) directly links to the Series table. Surprisingly, the correlation of Photographs to Series is a many-to-many relationship. Sally Mann's varied series December 8, 2000, Body Farm, Eva's Bones (alternate title for these is Matter Lent), Antietam (exhibited and published as *Battlefields*), and Faces were all published under the title *What Remains*. Clearly, a Photograph can be part of many Series. As publications can sometimes refer to a Series without reproducing an image, the Publications table is also linked to a Series table. However, since records from the Exhibitions, Sale, and Correspondence tables can reference Series titles through looking up the related Photography records, they are not linked to Series.

Differences within editions

Though there is generally consistency of photographic medium within editions, exceptions occur: as an emerging artist, Sally Mann ceded to the wishes of a buyer and sold a platinum print of "Candy Cigarette." Counterintuitively, then, Print Medium is noted within a Sales record. Within this database model, the Sales table stores information about specific prints, assembling information about Photographs, Medium, Print Sizes, Edition Numbers, Buyers, Dealers, and their Roles (Gallery, Museum, Not-for-profit, etc.), as well as the details of financial transactions. The fields signifying the condition of photographs (not-for-sale, not-yet-printed, matted, framed, unsigned, not-yet-spotted...) should be modified to suit the studio or archive.

The changing roles of Associates

Considering how the collection functions and how the data will likely be read, I broke the rules of database normalization to create separate tables for Associates, Subjects, and Authors. Authors, despite potentially buying a photograph, or being seen in one, are consigned to their own category. Subjects is an ever-expanding table,

but also a primary search term; as with Authors, there exists a possibility of correspondence or transaction, but this was overlooked to create a faster-searching database, favoring an anticipated method of conducting research. Scripts can be written to find commonalities between the Subjects and Associates tables. The Associates table includes Buyers, Sellers, Correspondents, and persons involved with TV/Radio/Film events. The table recurs many times within the graph, under different aliases (see following heading).

Determining multiple table occurrence

In order to accurately portray the correlations within the archive, each table must take part in many relationships within the database. FileMaker Pro allows for the same table to be present in many areas of the relationships graph, and take part in many relationships. Multiple table occurrences can be understood as viewing the same table from different perspectives. The same data is accessible through each occurrence—the occurrence. I have numbered or renamed tables for clarity. Referring to Appendix B., the table Exhibitions appears as Exhibitions, Exhibitions 2, and Exhibitions 3. The table Photographs appears as Photographs and Photo Letters (this occurrence specifically relates to the Correspondence table)

Storing images

This database, consistently used on a single computer, utilizes container fields for jpeg images of photographs and negatives (“Thumbnail”). A larger view is available, with a relative path to a larger-resolution file (as large as it needs be for the use of the archive, considering if it will be printed, or seen only on screen). The relative paths of both container fields lead to the machine’s hard drive. For another archive, it may be more useful to create a separate image database solely to organize image files, or to store these elsewhere (as in a remote server). A scripted calculation can recall the name and location of the file on a CD or hard-drive, if it needs to be emailed for a publication.

Value lists

The tables represented in green on the Table Relationship Diagram, contain Value Lists. These provide a controlled vocabulary of terms for such fields as Print or Negative Medium, Author Roles, Buyer/Seller Types, etc. They are accessed within the database as drop-down menu lists. Their application can be seen in Ch. 10, p. 29.

Users & user permissions

It is advisable to create separate accounts for users, and a Guest account with limited access to certain records. With a growing number of users with permissions to write (modify records), the potential for recording erroneous information increases. It is best practice to limit administrative users. In the database, each record's "Date created/modified" and "Created/Modified by" fields are formatted to automatically track updates. The accountability and trail allows for quicker resolution of misunderstandings or mistakes. The majority of errors will happen during data input.³

¹ Or, made to conform to the rules of database design which prevent the existence of redundant data within an application.

² A primary key is the automatically generated number which uniquely identifies a record within a table. If it is referenced in another table, it is there called a foreign key. This is an essential part of data normalization, and of linking records across many tables (such as Photographs and Publications).

³ Paul F. Marty, "Factors Influencing Error Recovery in Collections databases: A Museum Case Study," *The Library Quarterly* 75, 3 (July 2005): 295 – 328.

9. SEARCH PATTERNS & INTERFACE DESIGN

The key to a successful application is a neutral and attractive interface supporting an intuitive search path. I have attempted to make wise design choices—but, as FileMaker is easily modified, the look of the database is easily amended for users discontented by the shades of grey.

I considered the visual appeal of the interface design based on case studies¹ and my own use of various databases. The design of a collection catalogue database solution, then, should:

- 1.) Have a simple, non-scrolling interface, with all search options visible;
- 2.) Export records, and save/export found sets;
- 3.) Provide options for search results (sort, limit);
- 4.) Provide a image index of all photograph thumbnails;
- 5.) Allow zooming in/out on images;

The interfaces, compiled in Appendix D, meet these requirements.

I was concerned about the paths of research within the database. Although the majority of queries will request specific objects, I wanted to encourage research of the unknown connections and tendencies as well. I assessed likely procedures of research by outlining four general categories of users. Their needs directly affected the design and search possibilities within the database's interfaces. In my generalized assessment, Photographers wish to know the availability of prints for reproduction or exhibition, keep track of contacts, printing dates, or print orders. Collection managers, as the caretakers of the collection, additionally require easy ability to add, delete, and modify records. Researchers and curators may be curious of the use and familiarity of a certain photograph (or who it can be borrowed from). A curator may

be interested in understanding the life of the photograph, and its cultural impact. Thus, they may wish to analyze information about the contexts in which an image was seen. A dealer's main interests are the financial value of an image, who has bought and sold it, how its value has increased or diminished, and if the prints from the same negative are still available for sale (the rarity of the object). In addition to finding this information for singular photographs, a dealer may wish to perform searches on groups of objects, and sort found sets of photographs by sale date, number of sales, or price.

Having outlined these paths of research, I designed interfaces to allow viewing certain related records, and to accommodate sorting found sets based on titles, dates, or series. Accustomed to webpage browsing of information, I found the lack of a back-button on the database inconvenient: all related records, then, are presented in a new window. The information in these new windows can be printed, saved, viewed in a different format, or sorted, but no new searches can be performed in them. This prevents the user from opening too many windows, and becoming lost in their own research.

¹ Gary Marchionini, et al, "Interfaces and Tools for the Library of Congress National Digital Library Program," *Information Processing and Management* 34, no. 5 (1998): 535 – 555; and Beth Sandore, "What Users Want from Digital Image Collections," in *Moving Theory Into Practice; Digital Imaging for Library and Archives*, 4 – 5.

10. WORKING IN THE INTERFACE

These brief instructions introduce the reader to the database through examples of creating and linking records, and performing searches.

Confronted with the opening database screen (*ill. 1*), the user is immediately able to choose to search Negatives, Photographs, Publications, Exhibitions, Sales, TV/Radio/Film events, or Communication. To start in a logical place, let us create some Photograph records by clicking the New Record button. To simplify the use of the database, I have created buttons within the interfaces which perform scripts (in this case, “Create New Record”) to circumvent the use of menus or unfamiliar keyboard shortcuts. Limiting the options for users also limits the potential for errors.

The screenshot displays a web-based database interface. At the top, there is a horizontal navigation bar with seven buttons: 'NEGATIVES', 'PHOTOGRAPHS', 'EXHIBITIONS', 'PUBLICATIONS', 'SALES', 'TV/RADIO/FILM', and 'COMMUNICATION'. A question mark icon is located to the right of these buttons. Below the navigation bar, a row of action buttons includes 'new search', 'see all records', 'print form', 'save as PDF', 'new record' (which is circled in red), and 'list view'. The 'new record' button is also highlighted with a red oval. Below these buttons is a form with several input fields: 'Title', 'Year', 'Location', 'Series', 'Subject', 'Negative dimension', 'Negative process', 'Print dimensions', and 'Print process'. There are also radio button options for 'Press print avail.', 'Press scan avail.', and 'Est. print avail.', each with 'yes' and 'no' choices. A 'sizes' field is also present. At the bottom right of the form are two buttons: 'view sale info' and 'view correspondence'. Below the form, there are two sections: 'RELATED PUBLICATIONS' and 'RELATED EXHIBITIONS', each with a 'records found' label and a list of records. At the bottom of each section is a button that says 'see full records in new window'.

ill. 1

New Record

The New Record menu for Photographs provides free-text fields for information regarding a photograph such as Title, Date, and Darkroom Notes. FileMaker automatically generates the date and maker of the record. To ensure a consistency in naming, and aid in later searching, the Subject, Location, Series, and Print medium must be chosen from drop-down lists of existing records. As this is the first record, the drop-down menu offers no choices (*ill. 2*). These can be added by clicking the adjacent add value buttons. It should be noted that all the new screens (Add new record, Add new value) open atop the existing search screen. This way, users can resume work in progress after adding the necessary records by x-ing out of the overlaying pop-up screen.

The screenshot shows a FileMaker interface for adding a new record. At the top, there are buttons for 'new search' and 'new record', along with navigation arrows and a '1 of 1' indicator. The main form area is divided into several sections. On the left, there is a large empty box with an 'insert thumbnail' button. To its right, there are fields for 'Title' (containing 'Virginia at 4'), 'Date' (containing '1989'), and 'Print medium' (empty with an 'add medium' button). Below these is a 'Darkroom notes' field containing the text '897 (#4 Agfa), Oct. '91 (#4 Agfa), Feb. '93 (#4 Agfa), Nov. '95 (MG #5)'. Further down are fields for 'Location' (empty with an 'add subject' button), 'Subject' (empty with an 'add subject' button), and 'Series' (empty with an 'add series' button). At the bottom left, there is an 'add negative record' button. The bottom status bar displays the date '7/25/2007' and the user 'Admin'.

ill. 2

Value Lists

Value lists are separate tables, not directly related to any table but made accessible in the various interfaces through drop-down menus. The value lists include lesser-used search terms: publication types (anthology, exhibition catalogue, newspaper, periodical, thesis), print and negative mediums, author roles (author, editor, translator, etc.), and buyer/seller roles (gallery, museum, private collector, etc.).

While in the Add Print Medium screen (ill.3), we can add many likely photographic processes. The Value List screens are displayed as scrollable lists in pop-up windows. Values should be appropriately modified to reflect the needs of the archive (there is no need to list “Daguerreotypes” in this database.)

Linking new records to existing records

In the New Photograph interface (ill. 1), a button supported by a script allows the creation of an automatically linked Negative record. In the Negatives interface, a photograph can be chosen by title in order to manually link records.

Unlike the Value List tables, which are not related to any other tables, Subjects, Location and Series are joined to the Photographs table through foreign keys (one-to-one relationships) or joining tables (one-to-many relationships).

Location records link to Photographs through a Foreign Key in the Photographs table, as each Photograph can only reference one Location. The Locations field offers a list of choices from the Locations table, displayed to the user as text (Boxerwood, Bequi, Cumberland Island, Hunter & KB's house...), but stored in the Photographs table record as Foreign Keys (ID fields)

For one-to-many relationships created through a joining table, a multi-row portal is used. Portals allow viewing data from a table on another, related table's layout. The

database has been set to allow the creation of joining table records through portals. Again, these are displayed as text, but stored in the joining table as Foreign Keys (*ill. 4*).

The screenshot shows a web-based form for adding or editing a photographic record. At the top, there are buttons for 'new search' and 'new record', and a navigation indicator '1 of 1'. The main form is divided into several sections: a large area on the left for an image thumbnail with an 'insert thumbnail' button; a 'Title' field containing 'Virginia at 4'; a 'Date' field with '1989'; a 'Print medium' dropdown set to 'Gelatin silver' with an 'add medium' button; a 'Darkroom notes' text area with the text '89? (#4 Agfa), Oct. '91 (#4 Agfa), Feb. '93 (#4 Agfa), Nov. '95 (MG #5)'; a 'Location' field with 'McLaughlin St. House' and an 'add location' button; a 'Subjects' dropdown menu currently showing 'Virginia Mann' with a list of other names below it; and an 'Immediate Family' dropdown with an 'add series' button. There are also radio buttons for 'Digl. scan avail.', 'Press print avail.', and 'Exh. print avail.', each with 'yes' and 'no' options. At the bottom left, there is an 'add negative record' button. A status bar at the very bottom displays '7/25/2007' and 'Admin'.

ill. 4

Adding images

The image container field can store jpegs, or store relative paths to image files. Again, a button supported by a script simplifies the task of uploading images, and omits the need to use the FileMaker menus.

Managing sales

Each photographic Sale record compiles the varied choices of size, edition number, title, print medium, buyer and sellers. Thus, the fields in Sales records are primarily value lists or radio buttons. As a print can be re-sold by other agents, the interface provides additional space for subsequent sale information.¹ Sales records can be viewed individually, or as a list of all sales of one title, in one edition size, in order of edition numbers (a section of the Sale List view interface is seen in *ill. 5*).

The screenshot shows a web-based art database interface. At the top is a navigation bar with tabs: NEGATIVES, PHOTOGRAPHY, EXHIBITIONS, PUBLICATIONS, SALES, TV/RADIO/FILM, and COMMUNICATION. A search bar contains the text 'Title: Virginia at 4'. To the right of the search bar, it says '1 records found'. Below the search bar, there are buttons for 'new search', 'print form', 'save as PDF', and 'form view'. A small thumbnail image of a photograph is visible. Below the search bar, the text '1989 Gelatin silver' and 'Edition size: 3' are displayed. A table lists the records found, with columns for Edition Nr., Buyer, Seller, Price, and Photo medium. The table shows four entries, with the first three having a price of \$25 and the fourth having a price of \$925. The series is listed as 'Immediate Family'.

Edition Nr.	Buyer	Seller	Price	Photo medium:
2/25				Gelatin silver print
3/25	Oklahoma Arts Institute			Gelatin silver print
4/25		Houk Friedman		Gelatin silver print
9/25	Milwaukee Museum			Gelatin silver print

ill. 5

Searching

A search can be performed on any field in any interface, using full or partial words, or by utilizing the drop-down menus where appropriate. The "Records found" status box shows the number of retrieved records. The found set can also be viewed as a list, with the possibility of sorting (see Appendix D). If the user selects to "See related in new windows," this information opens in an overlaying pop-up window, with no additional search options (see Appendix D).

Printing/saving/exporting found sets

Buttons have been set up to simplify printing or saving displays to PDF formats. FileMaker easily exports records into other file formats. An unlikely activity in this particular archive, I have not created a button for this action.

¹ It is difficult to trace the re-sale of prints in the US, as it is not customary to alert artists of purchases made by secondary agents. The collection manager can sign up for e-mailed notices from Sotheby's, Christie's, or enterprises such as Artnet Magazine (artnet.com) who provide sale information from reputed photography dealers, but there is no direct way of monitoring all transactions.

11. PRODUCT TESTING

As only seven months were allowed for the creation of this project, from conception to finish, there was not ample time for benchmarking projects. Only the basic and most important functional aspects were assessed.

The project has met with favorable response from peers and photographers, appreciated for its visual simplicity and instinctive functionality. A version is currently being modified for a photographic archive comprised primarily of 35mm film and slides. Interest has been expressed in adapting this software to other archives.

12. LUCID OMISSIONS

Certain functions and fields have been specifically omitted from the database, as they were unnecessary or unsuitable for the archive.

Item-level indexing

The database distinguishes photographs, and enumerates the availability of prints for sale or exhibition, but does not provide a unique identification number and elaborate database record for each object in the studio. In museum or gallery collections, identification numbers are assigned to objects to distinguish identical prints. This is not a common or arguably useful practice in an active photographic studio, where the function of prints can change, and where works can be destroyed or removed from the studio. Here, photographs will more likely be organized by title, despite the existence of numerous copies, in various sizes. At present, such high-level registrarial attention is unnecessary, and would create additional work, require meticulous recording each time a print is created or moved, or changes functions (i.e, from exhibition to sale print). The movement of objects in and out for exhibition and sale is noted in the database, with a drop-down calendar marking their departure and/or return. The studio/archive also houses numerous unorganized/uncounted negatives and prints, never included in an edition. These add to the understanding of a photographer's oeuvre, and consequently, should have a presence within a complete catalogue, but are not a high priority for this database solution.

Controlled vocabulary

The database concentrates on the basic but significant points of reference to a photographic image (analogue technique, title, date), but does not utilize any standard, controlled naming authority to describe the content of photographs. The adherence to uniform and predetermined naming conventions assures a level of interoperability between museum systems, easing research across collections. Unless

the museum digital management system to mimic and emulate is known, there is no reason for a studio to work within the narrow confines of content standard terminology.¹ The locations in Sally Mann's photographs include family domiciles such as the Maury River Cabin or the McLaughlin St. house, the Washington & Lee Law Library or the rope bridge over the Maury River in Lexington VA, a variety of historically marked battlefields, and ambiguous locations in the South, fallen into ruin and obscured by kudzu. Implementing any traditional and necessarily broad cataloguing term conventions would make searching more difficult and imprecise. To assist in searching, locations and proper subjects are noted in the database, but neither generic subjects nor more interpretive terms are.

Illustrated itemization of editioned prints

The thesis review committee suggested that variations among images printed from the same negative should be noted, and an image of each editioned print should be included in the database for easy comparison. Although this is possible with a database and useful for research, it is beyond the scope of this particular application. There are text fields in the records to document differences among the sale prints still in the studio when the database was created, but there has been no effort made to evaluate the aesthetics of sold prints. The project is simply too big. A digital image high enough in quality to accurately replicate a 20x24" traditional silver-gelatin print presents a large data storage problem, likely to slow the application significantly, and hardly worth the effort. It will never provide an absolutely truthful representation on varied computer screens.

I do agree that *significant* differences within a group of edition prints ought to be noted. For now, some of this information can be interpreted from the available data. The answers to some research concerns can still be inferred from the available information. For example, comparing the darkroom information and sale dates of prints, it becomes evident which edition numbers of specific titles were printed on Ilford Galerie, Agfa Classic, or Ilford Multicontrast paper. It is entirely possible to create an interface within the program to allow the photographer to describe in some detail the photographs printed each day, and have this information update the photograph record. However, within this specific archive, such computerized note keeping is unlikely.

Recording storage locations

The database was designed for a photographer who does not require a storage/location field. Such a field can easily be added, and used to note the different location of negatives, exhibition prints, and sale prints.

Noting negative & roll numbers

No special arrangements were made for rolls of negatives or contact sheets in this database, as it suits the needs of a photographer who ostensibly does not use cameras smaller than 8x10. Reconfiguring or recreating this model for a photographer who shoots roll film, makes digital images, or uses many negatives or inter-positives in the creation of a single photograph, the structure of the database would be appropriately altered. This again illustrates a benefit of customized software.

¹ Naming authorities include Documentation Committee of the International Council of Museums (ICOM/CIDOC), the Museum Documentation Association (MDA) in England, Thesaurus ARTis Universalis (TAU) working for Comité International d'Histoire de l'Art (CIHA), Library of Congress MARC format content standards, and the Getty Art & Architecture Thesaurus, developed in 1983 and continuously updated. The Getty standard consists of ULAN (Union List of Artist Names) with names and biographies, TAP (Thesaurus of Art-Historical Place Names, now called TGN, Thesaurus of Geographic Names) which lists geographical locations, and ICONOCLASS which describes content. The naming authority guides can be obtained through the organizations' websites. (Bower)

13. PRESERVING & MAINTAINING THE DIGITAL APPLICATION

The database, as with any catalogue, represents a moment in an archive's existence. As a key integrated into the collection, its content *and* context must be preserved. The choices for preservation remain refreshing (copying to identical medium), migration (transferring data to newer generation of software/hardware), or emulation (recreation of data and software functions in completely new software/hardware system). Migration is the most likely procedure in this case.

The FileMaker Pro database can sustain long-term users who anticipate software updates and newer versions to be offered in the future. At this project's inception, I worked with a downloaded trial copy of 8.0; the final database was built in a licensed copy of FileMaker Pro 8.5; at the time of writing, FileMaker pro 9.0 has just been released. Lacking a new version comparable with future needs and possibilities, the data can still be exported into a tab-separated file and included in future software.

In time, the logical choices made in organizing this database can inform about the implicit principles and physical state of the collection. In this database, the options for searching certainly promote certain entities as central to research, favoring photographs over negatives, and separating authors and subjects from the larger pool of constituents to simplify searching and the creation of records. Despite any bias in organization, the information is recorded in its entirety. Diligent research aided by programming scripts can process and re-interpret this data to inform a different perspective.

14. CONCLUSIONS & SUMMARY REPORT

The intent of this project was to create an affordable and practical database to catalogue the activities and physical components of a photographic archive. Its structure was meant to illustrate the interrelation between photographs and their use. It was not intended to itemize the lifecycle of each successfully printed photograph, only of the salable editions. Evaluated against a range of literature and products, the project successfully responds to the defined needs.

Utilizing FileMaker Pro software makes the database affordable and easily implemented. The table structure and relationships can be easily modified, without specialized computer science knowledge. Presently, the database is being appropriately adapted to suit the needs of the Jenny Lens Punk Archive in San Marino; I hope to utilize it to help organize the Lee Black Childers collection of early New York City punk photographs in the future. Although sorting through records of an archive and typing them into a database is not a highly engaging activity, finding gems, and the ability to find them again, is a collection manager's thrill.

The created database remains the property of the author and the archives where it is implemented. The provided diagrams and explanations of logistical structure can be freely emulated, modified, or improved upon. The collection catalogue specific to Sally Mann's archive is not made public, however, a copy of the database (with records omitted) can be acquired from the author.

APPENDIX A:

ENTITY RELATIONSHIP DIAGRAM

- A PHOTOGRAPH can only be made from a single NEGATIVE, but a NEGATIVE can result in many PHOTOGRAPHS (note crow's foot connection on this side).
- A SERIES must consist of PHOTOGRAPHS, indicated by the circle, but a PHOTOGRAPH does not have to be included in a SERIES, indicated by the straight line.

TABLE RELATIONSHIP GRAPH

Fig. 1: Full table relationship graph

Fig. 2: Photographs and Negatives tables and relationships

Fig. 3: Publications table and relationships

Fig. 4: Exhibitions table and relationships

Fig. 4: Sales table and relationships

Fig. 6: Correspondence table and relationships

Figure 7: Film, Television and Radio events table and relationships

APPENDIX C:

DATA DICTIONARY

This appendix provides a detailed description of the type of data stored within each table.

C.1. ENTITIES:

- *Photographs*, *Photo letters* (same table, different occurrences) are images used in exhibitions, publications, or sales, or included in an edition. Photographs can exist without negatives (as in the case of ambrotypes).
- *Photo Subjects* refer to the persons or known domestic animals in a photograph.
- *Photo Locations* refers to the locations depicted in a photograph.
- *Series*, *Series 2* are titles for a group of photographic works, such as Family Pictures or Eva's Bones. Both Photographs and Negatives refer to a series, but because the relationship photographs-negatives is not universal, and while a negative is created for a series, it does not always remain part of the final edit.
- *Negatives* can exist without a photograph (as in a negative that was never printed).
- *Negatives Medium* is a value list providing a naming authority on describing a negative medium (Gelatin silver, Collodion wet plate).
- *Sale* assembles the information about an Editioned Print's print information (title, medium, size, number within the edition) and sale information (buyer, seller, price, date of transaction, details of transaction).
- *Edition Sizes* is a value list of standard edition sizes (8"x10", 16"x20", 20"x24", etc.).
- *Print Medium* is a value list providing the naming authority for positive print media (Ambrotype (black glass), Ambrotype (Red Glass), Gelatin silver, Gelatin silver with handmade varnish).
- *Associates*, *Buyer*, *Seller*, *Associates_tv* list the personal data of people. This table's various occurrences function to organize persons involved in correspondence, purchasing or selling prints, and taking part in media events.
- *Buyer Seller Type* is a value list providing the terminology for categorizing buyers/sellers as private collectors, museums, galleries, not-for-profits, etc

- *Publications, Publications 2* compiles and lists data regarding published instances about the photographer, or of their work.
- *Publication types* is a value list providing the possible categories for publications (Monograph, anthology, newspaper book review, newspaper show review, etc.).
- *Authors, Authors 2* identifies authors of publications.
- *Author Roles* is a value list identifying the role of an author in creating a publication (photographer, author, editor, essayist, etc.).
- *Exhibitions, Exhibitions 2, Exhibitions 3* compiles and lists data about exhibitions .
- *Venue, Venue 2, Venue 3* identifies the venues which hosted an exhibition, including address, web address, and contact information.
- *Curators, Curators 2* lists the personal data of curators.
- *Film/TV/Radio* compiles information about media events.
- *Correspondence* summarizes information about letters sent/received.

C. 2: JOINING TABLES

The tables *Publications_x_series*, *Photographs_x_series*, *Photographs_x_publications*, *Exhibitions_x_publications*, *Exhibitions_x_publications 2*, *Exhibitions_x_venues*, *Exhibitions_x_venues 2*, *Exhibitions_x_curators*, *Exhibitions_x_curators 2*, *F_T_R_x_correspondence*, and *Correspondence_exhibitions* store a Foreign Key (unique record ID) from each named table in a record.

- *Publications_x_authors*, *Publications_x_authors 2* stores a Foreign Key from both tables and a value from the *Author_role* list in each record.
- *Photographs_x_Exhibitions* stores a Foreign Key from both tables and a free-text field regarding the preparation/condition of the print sent to exhibition.
- *Photographs_x_publications* stores a Foreign Key from both tables and a free-text value noting the page number where the image was reproduced in each record.
- *F_T_R_x_associates* stores a Foreign Key from both tables and a free-text field describing the role of the associate (director, producer, interviewer, etc.).

C. 3: ATTRIBUTES

For all records, the database automatically generates values for “Table_id,” “Created/Modified by” and “Created/Modified date” fields. “Table_id” is an auto-incrementing serial number. “Created/Modified by” records the user’s login name. Tables *Photographs*, *Negatives*, *Exhibitions*, *Publications*, *Sales*, *Film/Television/Radio*, *Correspondence* also include a “Records_found” summary field, which calculates the number of records recalled in a search. The attributes for the tables: *Negatives_medium*, *Print_medium*, *Edition_sizes*, *Author_roles*, *Publications_type*, *Buyer_seller_type*, *Photo_subjects* and *Photo_locations* include only a unique id field and a singular, self-explanatory record field.

Table: Photographs, Table: Photo Letters

- *Photo_location_FK* stores the Foreign Key field of a record from the *Photo_locations* table. In the interface, the value (i.e., Bequi) is displayed.
- *Photo_title* is the title used to identify the print. Can be Untitled.
- *Photo_thumbnail* is a container field which stores a jpeg or other image file.
- *Photo_medium* is a value-defined field noting the main printing medium.
- *Photo_date* records the date used with the print in publication and exhibitions.
- *Exhibition_print_available* is a yes/no radio button set.
- *Exhibition_print_available_sizes* is a repeating field, storing up to 4 different values.
- *Press_print_available* is a yes/no radio button set.
- *Digital_scan_available* is a yes/no radio button set.
- *Darkroom_notes* is a free-text field for darkroom information: dates of printing, paper and filters used, etc.

Table: Negatives

- *Photo_id_FK* stores the Foreign Key of a record from the *Photographs* table. In the interface, the title value associated with the record is displayed.
- *Neg_thumbnail* is a container field which stores a jpeg or other image file.
- *Neg_medium* is a value-defined field noting the object’s medium.
- *Neg_date* is the date of creation of negative.
- *Neg_size* refers to the dimensions of the negative.
- *Part_of_series* is a radio button to note if the object belongs to the final edition.

Table: Exhibitions, Table: Exhibitions 2, Table: Exhibitions 2

- *Ex_title* names the title of the exhibition.

- *Ex_date* provides the date range for the duration of the show.
- *Ex_type* is a radio button set, noting Individual/Group exhibitions.
- *Ex_traveling* is a Yes/No radio button set, noting if the exhibition traveled
- *Prints_sent* is a drop-down calendar noting the day work was sent to the first venue.
- *Prints_returned* is a drop-down calendar noting the day work was returned from the last venue.
- *Ex_notes* is a free-text field.

Table: Publications, Table: Publications 2, Table: Publications 3

- *Pub_type* is a value-defined drop-down list noting the publication type (Newspaper, Magazine, Exhibition catalogue, etc.).
- *Pub_title* is a free-text field for the title of the article or publication.
- *Pub_date* notes the date of publication.
- *Pub_publisher* notes the bibliographical citation of the publication.
- *URL* allows for a website link to the publication from the database.
- *pdf* is a container field provided if a PDF is available.
- *Pub_pages* notes the page range of the publication.
- *Review* provides a space for an abstract of the publication.
- *Pub_notes* is a free-text field.

Table: Sale

- *Photo_id_FK* stores the Foreign Key of a record from the Photographs table. In the interface, the Title, date, and thumbnail identifying the print are displayed.
- *Buyer_id_FK* stores the Foreign Key record from the Buyers occurrence of the Associates table. In the interface, the display name, role, and address are seen.
- *Seller_id_FK* stores the Foreign Key record from the Sellers occurrence of the Associates table. In the interface, the display name, role, and address are shown.
- *Edition_size* is a value-defined field noting the print size of the object of sale.
- *Photo_medium* is a value-defined field which notes the medium in which the sold print was printed.
- *Edition_number* stores the number of the sold print. This is a sort-by field in the Sales: list interface.
- *Print_status* is a check-box set noting if a print needs spotting, flattening, etc.
- *Price* notes the price paid by the Buyer.
- *Paid* is a Yes/No checkbox.

- *Sent* is a drop-down calendar, noting the date a print was sent to the Buyer.
- *Sale_notes* is a free-text field.
- *Resale_date* is a repeating field storing up to 4 dates of subsequent sales.
- *Resale_price* is a repeating field storing up to 4 price amounts of subsequent sales.
- *Resale_agent* is a repeating field storing up to 4 sales agents in subsequent sales.
- *Resale_buyer* is a repeating field storing up to 4 buyers in subsequent sales.

Table: Correspondence

- *Photo_id_FK* stores the Foreign Key of a record from the Photographs table, if the correspondence is written on a print. In the interface, the Title, date, and thumbnail identifying the print are displayed.
- *Associate_id_FK* stores the Foreign Key of a record from the Associates table. In the interface, the Display name of the record is seen.
- *Sender* is a Sender/Recipient radio button set, noting the role of the Associate.
- *Cor_abstract* is a free-text field.
- *Cor_date_sent* is a drop-down calendar reflecting the date of the correspondence.
- *Cor_type* is a free-text field identifying the type of correspondence (email, letter).

Table: Film/TV/Radio

- *F_T_R_title* records the title of the media event.
- *F_T_R_type* is a free-text field noting the type of media event (radio interview, television miniseries, etc.).
- *F_T_R_abstract* is a free-text field.
- *F_T_R_date* notes the date of the media event.

Table: Associates, Table: Buyers, Table: Sellers, Table: Associates_tv

- *Buyer_seller_type* identifies the type of agent (gallery, individual).
- *Associate_business* names the business, if any, of the Associate.
- *Associate_first* records the Associate's first name.
- *Associate_last* records the Associate's last name.
- *Display_name* is a calculation, allowing the name to be displayed in one field.
- *Associate_Street* and the following fields note the Associate's contact information.
- *Associate_City*
- *Associate_State*
- *Associate_Postal_Code*
- *Associate_Country*

- *Associate_Phone*
- *Associate_email*
- *Associate_notes* is a free-text field.

Table: Author, Table: Author 2

- *Author_first* and the following fields record the Author's name.
- *Author_midde*
- *Author_last*
- *Display_name* is a calculation, allowing the full name to be displayed in one field.

Table: Curators, Table: Curators 2

- *Exh_curator_prefix* and the following fields record a Curator's name and contact.
- *Exh_curator_first*
- *Exh_curator_last*
- *Exh_curator_email*
- *Exh_curator_phone*
- *Display_name* is a calculation, allowing the full name to be displayed in one field.

Table: Series, Table: Series 2

- *Series_title* notes the title of the series.
- *Series_year_range* notes the years during which the series was produced.
- *Series_synopsis* describes the content of the series.

Table: Venue, Table: Venue 2

- *Venue_name* and the following fields record the address and contact information for exhibition venues.
- *Venue_street*
- *Venue_city*
- *Venue_state*
- *Venue_postal_code*
- *Venue_country*
- *Venue_website*
- *Venue_contact_name*
- *Venue_contact_email*
- *Venue_contact_phone*
- *Venue_notes* is a free-text field.

APPENDIX D:

APPLICATION INTERFACES

This section provides illustrations of all of the user interfaces within the database.

D.1: VALUES

AUTHORS new record print form

<input type="text" value="ID"/>	<input type="text" value="Lastname"/>
<input type="text" value="First"/>	<input type="text" value="Last"/>
	<input type="text" value="Middle"/>

collection catalogue

Fig. 1: Authors

AUTHOR ROLE new record print form

<input type="text" value="ID"/>	<input type="text" value="Role"/>
<input type="text"/>	

collection catalogue

Fig. 2: Author roles

PHOTO LOCATIONS new record print form

<input type="text" value="ID"/>	<input type="text" value="Locations"/>
<input type="text"/>	<input type="text"/>

collection catalogue

Fig. 3: Photo Locations

PHOTO SUBJECTS new record print form

<input type="text" value="ID"/>	<input type="text" value="Subject"/>
<input type="text"/>	

collection catalogue

Fig. 4: Photo Subject

PRINT MEDIUM

[new record](#)[print form](#)

<input type="button" value="▲ ID ▼"/>	<input type="button" value="▲ Medium ▼"/>
<input type="text"/>	

collection catalogue

Fig. 5: Pring (Photo) Medium

PUBLICATION TYPES

[new record](#)[print form](#)

<input type="button" value="▲ ID ▼"/>	<input type="button" value="▲ Type ▼"/>
<input type="text"/>	

collection catalogue

Fig. 6: Publication Types

NEGATIVE MEDIUM

[new record](#)[print form](#)

<input type="button" value="▲ ID ▼"/>	<input type="button" value="▲ Medium ▼"/>
<input type="text"/>	

collection catalogue

Fig. 7: Negative Medium

SERIES

[new record](#)[print form](#)

<input type="button" value="▲ ID ▼"/>	<input type="button" value="▲ Title ▼"/>	<input type="button" value="▲ Date ▼"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
series title	date range	synopsis

collection catalogue

Fig. 7: Series titles, dates, and descriptions

VENUES

[new record](#)[print form](#)

<input type="button" value="▲ ID ▼"/>	<input type="button" value="▲ Name ▼"/>
<input type="text"/>	
<input type="text"/>	
street address	
city	state
zip	country
contact name	
contact email	
contact phone	
website	

collection catalogue

Fig. 8: Venue names, addresses, contacts

ASSOCIATES

[new record](#)[print form](#)

<input type="text"/>	<input type="text"/>			<input type="text"/>
	first	last	Role	
<input type="text"/>				
Street				
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	
City	State	Zip	Country	
<input type="text"/>				
Business				
<input type="text"/>				
Notes				
<input type="text"/>				

collection catalogue

Fig. 9: Associates (also Buyers, Sellers, and persons affiliated with media events)

CURATORS

[new record](#)[print form](#)

<input type="text"/>	<input type="text"/>		
	prefix	first	last
<input type="text"/>		<input type="text"/>	
email		phone	

collection catalogue

Fig. 10: Exhibition curators

D.2: NEW RECORD INTERFACES

Fields with a drop-shadow are drop-down menus, necessitating the use of a controlled vocabulary and linking with these new records with actual existing records. The help menus in the top right provide information on how to fill out forms, or add records to other tables.

The screenshot shows a web interface for creating a new correspondence record. At the top, there are buttons for 'new search' and 'new record', and a navigation bar indicating '1 of' records. A help icon (?) is in the top right. The form is divided into several sections: 'Correspondence with:' includes a text field, an 'add person' button, and radio buttons for 'Sender' and 'Recipient'. Below this is a 'Date sent:' field with a checkbox and a 'Type' dropdown. To the right is an 'Abstract:' text area. A horizontal line separates this from the 'on verso of:' section, which includes a large image placeholder, a 'Title:' text field, and a 'Regarding event:' section with 'media:' and 'exhibition:' dropdowns. At the bottom left, there is a 'see all photographs' button.

Fig. 11: New Correspondence record

The screenshot shows a web interface for creating a new exhibition record. At the top, there are buttons for 'new search' and 'new record', and a navigation bar indicating '1 of' records. The form includes a 'Title' field, a 'Venue' dropdown (with a note '(organizing-prints-sent-to-venue listed 1st)' and an 'add/modity venue' button), and a 'Dates' section. The 'Dates' section has a 'Type' dropdown (with 'Solo' and 'Group' options) and a 'Traveling' section with 'yes' and 'no' radio buttons. Below this is a 'Curated by' text field with an 'add/modity curator' button. The bottom section is divided into 'Images sent to exhibition:' (with a 'Photo title' field), 'Prints sent:', 'Prints returned:', and 'Notes:'. A 'Prepared:' field is also present. At the bottom left, there is a 'see all photographs' button.

Fig. 12: New Exhibition record

The form is titled "new search" and "new record". It features a navigation bar with "1 of" and navigation arrows. The main form area includes:

- Title:** A text input field.
- Date:** A text input field with a calendar icon.
- Type:** A dropdown menu.
- Abstract:** A large text area.
- Project associates:** A section with "Name:" and "Role:" input fields, and an "add person" button.

Fig. 12: New Film/TV/Radio event

The form is titled "new search" and "new record". It features a navigation bar with "1 of" and navigation arrows. The main form area includes:

- insert thumbnail:** A button to upload a thumbnail image.
- Title:** A text input field with an "add/modify value" button.
- Year:** A text input field.
- Negative process:** A text input field with an "add/modify value" button.
- Negative dimension:** A text input field.
- Part of series:** A radio button labeled "yes".

Fig. 13: New Negative record

new search new record 1 of

Title _____ Date _____ Print medium _____ add medium

Darkroom notes _____

Location _____ add location

Subjects _____ add subject _____ add series

insert thumbnail

add negative record

Digi. scan avail. ☐ yes ☐ no
 Press print avail. ☐ yes ☐ no
 Exh. print avail. ☐ yes ☐ no

Fig. 14: New Photograph record

new search new record 1 of

Author/s _____ Author role: _____ add/modify value

Series: _____ Type _____

link to PDF link to URL

Title _____ Abstract _____ Notes _____

Date _____ Publisher _____ Page _____

PHOTOGRAPHS reprinted: _____ see all/ add value

EXHIBITIONS referenced: _____ see all/ add value

TV/FILM/RADIO referenced: _____ see all/ add value

Title: _____

on pg. _____

Exhibition title: _____

Event title: _____

Fig. 15: New Publication record

new search

new record

◀◀

◀

1 of

▶

▶▶

Title:

see all/

add value

Edition size:

Edition nr.:

Medium:

Price

Paid

☐ yes
☐ no

Sent:

☐ yes
☐ no

Print status:

☐ NFS
☐ needs flat.

☐ NYPR
☐ needs mount.

☐ NYSP
☐ unsigned

Bought by:

modify/

add value

Sold by:

modify/

add value

Sale notes:

Subsequent resale:

Date:	Seller:	Buyer:	Price:

Fig. 16: New Sale record

D. 3: SEARCH SCREEN INTERFACES

These screens allow for searches by all enterable fields, including the related record fields inside portals (at the bottoms of the screens). Fields with drop-shadows indicate a drop-down menu. Within the top bar, the “xx of xx records found” status field provides an aid in navigating through found sets. Certain buttons: Print form, Save as PDF, and List view, and the buttons navigating between records, are inactive until a search is performed.

The search results are displayed within this same menu.

These figures follow:

Fig. 17: New Search: Negatives

Fig. 18: New Search: Photographs

Fig. 19: New Search: Exhibitions

Fig. 20: New Search: Publications

Fig. 21: New Search: Sales

Fig. 22: New Search: TV/Radio/Film events

Fig. 23: New Search: Communication

NEGATIVES PHOTOGRAPHS EXHIBITIONS PUBLICATIONS SALES TV/RADIO/FILM COMMUNICATION ?

new search see all records print form save as PDF new record 1 of 1 list view

Title Year Location

Series Subject

Part of series: ☒ yes

Negative process Negative dimension

Print process

print view

NEGATIVES	PHOTOGRAPHS	EXHIBITIONS	PUBLICATIONS	SALES	TV/RADIO/FILM	COMMUNICATION	?
-----------	-------------	-------------	--------------	-------	---------------	---------------	---

[new search](#)
[see all records](#)

[print form](#)
[save as PDF](#)

[new record](#)

1 of

◀

▶

[list view](#)

Title

Year

Location

Darkroom notes

Series

Negative dimension

Print dimensions

Negative process

Print process

Subject

Press print avail: ☐ yes ☐ no

Press scan avail: ☐ yes ☐ no

Est. print avail: ☐ yes ☐ no

sizes:

view sale info

view correspondence

neg. view

RELATED PUBLICATIONS records found

[see full records in new window](#)

RELATED EXHIBITIONS records found

[see full records in new window](#)

NEGATIVES	PHOTOGRAPHS	EXHIBITIONS	PUBLICATIONS	SALES	TV/RADIO/FILM	COMMUNICATION	?
-----------	-------------	-------------	--------------	-------	---------------	---------------	---

[new search](#)
[see all records](#)

[print form](#)
[save as PDF](#)

[new record](#)

1 of

◀

▶

[list view](#)

Title

Venue

Main venue address

Street

City/State

Zip/Country

Website

Exhibition dates

Notes

Exhibition type

Traveling ☒ yes ☐ no

Prints sent: Prints returned:

Venue contact

Name

e-mail

Phone

Venue curator

Name

e-mail

Phone

Venue Notes

PHOTOGRAPHS SHOWN records found

[see full records in new window](#)

RELATED PUBLICATIONS records found

[see full records in new window](#)

NEGATIVES
PHOTOGRAPHS
EXHIBITIONS
PUBLICATIONS
SALES
TV/RADIO/FILM
COMMUNICATION

?

new search
see all records
print form
save as PDF
new record
1 of
list view

Author
first
middle
last
Author role
Series
Publication type

Title
Publication info
Date
Pages
Abstract

go to PDF
go to URL

RELATED PHOTOGRAPHS
records found

RELATED EXHIBITIONS
records found

RELATED TV/FILM/RADIO
records found

see full records in new window
see full records in new window
see full records in new window

NEGATIVES
PHOTOGRAPHS
EXHIBITIONS
PUBLICATIONS
SALES
TV/RADIO/FILM
COMMUNICATION

?

new search
see all records
print form
save as PDF
new record
1 of
list view

Bought by:
Address:

Buyer type:

Price

Paid
yes no

Print status:
NFS needs flat.
NYSP needs mount.
NYSP unsigned

Sent:
yes no

Title:
Date:
Medium:
Edition size:
Edition nr.:

Sold by:
Address:

Seller type:

Subsequent resale:
Date:
Seller:
Buyer:
Price:

Sale notes:

NEGATIVES	PHOTOGRAPHS	EXHIBITIONS	PUBLICATIONS	SALES	TV/RADIO/FILM	COMMUNICATION	?
-----------	-------------	-------------	--------------	-------	---------------	---------------	---

[new search](#)
[see all records](#)
[print form](#)
[save as PDF](#)
[new record](#)

1 of

[list view](#)

Title

Associates

<small>last</small>	<small>first</small>	<small>role</small>
<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>	<input style="width: 95%;" type="text"/>
<small>affiliation</small> <input style="width: 95%;" type="text"/>		

Date **Type**

Abstract

RELATED CORRESPONDENCE records found

[see full records in new window](#)

RELATED PUBLICATIONS records found

[see full records in new window](#)

NEGATIVES	PHOTOGRAPHS	EXHIBITIONS	PUBLICATIONS	SALES	TV/RADIO/FILM	COMMUNICATION	?
-----------	-------------	-------------	--------------	-------	---------------	---------------	---

[new search](#)
[see all records](#)
[print form](#)
[save as PDF](#)
[new record](#)

1 of

[list view](#)

Correspondent name:

First/Last: Sender Recipient

Address

Street:

City/State:

Zip/Country:

Date: **Type:**

Abstract:

Photograph used:

[see full record in new window](#)

D.4: VIEW SEARCH RESULTS AS LIST

To save on space and redundancy, only the top menu bars of the search screens will be illustrated. These also show the possible sort-by options. Sales records are automatically sorted by the edition number, and cannot be re-sorted.

Fig. 24: See results from Negatives search as list

Fig.25: See results from Photographs search as list

Fig. 26: See results from Exhibitions search as list

Fig. 27: See results from Publications search as list

NEGATIVES PHOTOGRAPHS EXHIBITIONS PUBLICATIONS SALES TV/RADIO/FILM COMMUNICATION ?

new search print form save as PDF records found form view

Title: _____ Edition size: _____ Series: _____

Edition Nr.	Buyer	Seller	Price	Photo medium:
-------------	-------	--------	-------	---------------

Fig. 28: See results from Sales search as list

NEGATIVES PHOTOGRAPHS EXHIBITIONS PUBLICATIONS SALES TV/RADIO/FILM COMMUNICATION ?

new search see all records print form save as PDF records found form view

▲ Title ▼ ▲ Date ▼ ▲ Abstract ▼ ▲ Type ▼

Fig. 29: See results from TV/Radio/Film events search as list

NEGATIVES PHOTOGRAPHS EXHIBITIONS PUBLICATIONS SALES TV/RADIO/FILM COMMUNICATION ?

new search see all records print form save as PDF records found form view

▲ Correspondent ▼ ▲ Date ▼ ▲ Abstract ▼ ▲ Type ▼ ▲ Photograph ▼

Fig. 30: See results from Communications search as list

D. 5: SEE RELATED RECORDS IN NEW WINDOW INTERFACES

Clicking the “see related in new window” button from a search screen, the user is taken to these pop-up windows, which do not allow further searching.

This screenshot shows a web interface for viewing related negatives. At the top, there are buttons for 'print form' and 'save as PDF', followed by navigation arrows and the text '1 of'. A 'list view' button is on the right. The main form contains fields for 'Title', 'Year', 'Location', 'Series', and 'Subject'. Below these are checkboxes for 'Part of series: yes', 'Negative process', 'Negative dimension', and 'Print process'. The interface is designed for detailed viewing of a specific record.

Fig. 31: See related Negatives in new window

This screenshot shows a web interface for viewing related photographs. It includes buttons for 'print form' and 'save as PDF', navigation arrows, and the text '2 of'. A 'list view' button is on the right. The main form contains fields for 'Title', 'Year', 'Location', 'Series', and 'Subject'. Below these are checkboxes for 'Negative dimension', 'Negative process', 'Print dimension', and 'Print process'. To the right, there are checkboxes for 'Press print avail.', 'Press scan avail.', and 'Ext. print avail.', along with a 'size:' field. At the bottom, there are two sections: 'RELATED PUBLICATIONS' and 'RELATED EXHIBITIONS', each with a 'records found' indicator and a list of results.

Fig. 32: See related Photographs in new window

1 of

Title _____ Main venue address _____
 Venue _____
 Exhibition dates _____ Exhibition type ☐ yes ☐ no
 Notes _____ Prints sent on: _____ Prints returned on: _____ Venue contact _____ Venue curator _____

PHOTOGRAPHS SHOWN records found

size shown: active sent

RELATED PUBLICATIONS records found

Fig. 33: See related Exhibitions in new window

1 of

Author _____ Author role _____ Series _____ Publication type _____
 Title _____
 Publication info _____
 Date _____ Pages _____
 Abstract _____

RELATED PHOTOGRAPHS records found

RELATED EXHIBITIONS records found

RELATED TV/FILM/RADIO records found

Fig. 34: See related Publications in new window

1 of

Title:

Date:

Medium:

Edition size:

Edition nr.:

Bought by:

Address:

Sold by:

Address:

Buyer type:

Price:

Paid: ☐ yes ☐ no

Print status:

☐ NFS ☐ needs flat.
☐ NYPR ☐ needs mount.
☐ NYSP ☐ unsigned

Sent: ☐ yes ☐ no

Subsequent resale:

Date:	Seller:	Buyer:	Price:

Sale notes:

Fig. 35: See related Sales records in new window

1 of

Title

Date **Type**

Abstract

Associates

RELATED CORRESPONDENCE records found

RELATED PUBLICATIONS records found

Fig. 36: See related TV/Radio/Film events in new window

print form save as PDF 1 of 1 Est view

Correspondent name
Sender Recipient

Address

Date Type

Abstract

Fig. 37: See related Correspondence records in new window

BIBLIOGRAPHY

- Arditti, Michael. *Pagan and her Parents*. London: Sinclair-Stevenson, 1996.
- Armitage, L., P.G.B. Enser. "Analysis of user need in image archives." *Journal of Information Science* 23, 4 (1997): 287 – 299.
- Babington, Doug. "Sexual Outlaws and the Posses of Hearsay" *Queen's Quarterly: A Canadian Review* 100, no. 2 (Summer 1993): 491 – 503.
- "The Body in Question." *Aperture* (Fall 1990).
- Bolley, Henry, and Salley [sic] Munger Mann, ill. *Lexington in Old Virginia*. Lexington, VA: Garrett & Massie, Liberty Hall Press, Washington & Lee University, 1936, 1974.
- Bower, James. "Vocabulary Coordination Projects in the Art Information Community." *Bulletin of the American Society for Information Science* (December/January 1992): 19 – 21.
- Cantor, Steven. *Blood Ties*. HBO, Stick Figure Productions, 1992.
- . *What Remains*. HBO, Stick Figure Productions, 2004.
- Churchill, Barbara Ann. "The Lolita Phenomenon: The Child (femme) fatale at the fin de siècle." PhD diss., University of Alberta, 2003.
- Coffey, Geoff, and Susan Prosser. *FileMaker Pro 8: The Missing Manual*. O'Reilly Media. Sebastapol, CA: 2005.
- Collins, K. "Providing subject access to images: a study of user queries." *American Archivist* 61 (Spring, 1998): 36 – 55.

- Dalmau, Michelle, Randall Floyd, Dazhi Jiao, and Jenn Reily. "Integrating thesaurus relationships into search and browse in an online photograph collection." *Library Hi-Tech* 23, 3 (2005): 425 – 452.
- DiPrete, Laura. *The Wound that Wounds: Trauma, Subjectivity, and Vision in the Photography of Sally Mann*. In "Foreign Bodies: Trauma, Corporeality, and Textuality in Contemporary American Culture." PhD diss., University of South Carolina, 2003.
- Fletcher, Jane. "Grim Fairy Tales?; The Uncanny Effect of Sally Mann's *Immediate Family*." Master's thesis, University of Leeds, 1996 revised 1998.
- Gander, Forest, *Lynchburg*. Pittsburg: University of Pittsburg Press, 1993.
- . *Science & Steepleflower*. New York: New Directions Press, 1998.
- . *Torn Awake*. New York: New Directions Press, 2001.
- Gander, Forest, and Sally Mann. *Conjunctions: Eye to Eye, a Portfolio of Writer/Artist Collaborations* (Bard College) 32 (1999).
- Golden, Thelma, ed., *art:21 Art in the Twenty-First Century*. New York: Harry N. Abrams, 2001.
- Goldstein, Richard. "The eye of the beholder." *Village Voice* (March 10, 1998): 32 – 36.
- Harrison, Kathryn. *Geshonded*. Random House, Meulenhoff: Amsterdam, 1993.
- Higonnet, Anne. *Pictures of Innocence: The History and Crisis of Ideal Childhood*. London: Thames & Hudson, 1998.
- The History of Photography*. London: BBC Channel 4 Productions, Wall-to-Wall media Ltd, 2006.
- Karnes, Cyntia, and Katherine Jennings. "Contemporary Artists' Perspectives on Coating, Lamination, and Face Mounting." In *Coatings on Photographs*:

Materials, Techniques, and Conservation, edited by Constance McCabe, 346 – 356. Washington, D.C.: AIC Photographic Materials Group, 2005.

Kenny, Anne R., and Oya Y. Rieger, eds. *Moving Theory into Practice; Digital Imaging for Library and Archives*. Mountainview, CA: Research Libraries Group, 2000.

Lindermeier, Stein, "User requirement analysis in the museum and art history field for advanced computer system design." *Computers and the History of Art* 1 (2): 39 – 53.

Mann, Sally. *At Twelve: Portraits of Young Women*. New York: Aperture 1988, 2005

———. *Deep South*. New York: Bullfinch, 2005.

———. *Immediate Family*. New York: Aperture, 1992.

———. *Mother land: Recent Landscapes of Georgia and Virginia*. New York: Edwynn Houk Gallery, 1997.

———. *What Remains* (Boston: Bullfinch, 2003).

Marchionini, Gary, et al. "Interfaces and Tools for the Library of Congress National Digital Library Program." *Information Processing and Management* 34, no. 5 (1998): 535 – 555.

Marty, Paul F. "Factors Influencing Error Recovery in Collections databases: A Museum Case Study." *The Library Quarterly* 75, 3 (July 2005): 295 – 328.

Pollachek, Ellin Ronee. "What Similarities and Differences, if any, can be perceived from an analysis of the critical responses to transgressive art in two different artforms." PhD diss., New York University, 1999.

Sklar, Hinda. "Why make images available online: user perspectives." In P. McClung (ed). *RLG Digital Image Access Project*, 11- 18. Mountainview, CA: Research Libraries Group, 1995.

Sokolov, Raymond. "Critique: Censoring Virginia." *Wall Street Journal* (February 6, 1991).

Sollins, Susan, Executive Producer /Curator, Susan Dowling, Executive Producer, and Catherine Tatge, Director. art:21 "Place," Originally aired September 21, 2001 on PBS. <http://www.pbs.org/art21/artists/mann/index.html>

Stephenson, Christie. "Recent Developments in Cultural Heritage Image Databases: Directions for User-Centered Design." *Library Trends* 48 (Fall 1999): 410 – 437.

Trant, Jennifer. *Image Retrieval Benchmark Database Service: A Needs Assessment and Preliminary Development Plan*. Prepared for the Council on Library and Information Resources and the Coalition for Networked Information: 2003, 2004. www.clir.org/PUBS/reports/tranto4.html.

Weinstein, Ann. "Die Sexualisierung des Mädchens Als Frau" *Katalog* (April 1999): 36 – 38.

Woodward, Richard. "The Disturbing Photography of Sally Mann." *New York Times Magazine* (Sept. 27, 1992).