

# Long-Term Digital Preservation of Photo Books

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## Abstract

*Preservation of photo books extends beyond simply preserving the physical object. Preservation requires understanding the photo book production process, which begins with taking digital photos, includes digital file creation, and extends to manufacturing the book in its final form. Unfortunately, the intermediate steps are often lost, with manufacturers generally unwilling to supply intermediate files in some false belief that doing so threatens future profitability. Overall, this business practice is short-sighted and is in fact counterproductive when it comes to photo book preservation.*

## Introduction

A photo book is by definition a bound book with printed pages comprised of integrated personal photos along with artwork and text, designed by and usually dedicated to a limited group of people. Photo books take advantage of mass customization to produce high-quality, unique books that would be impossible to create with conventional printing technologies.

Preserving photo books is important, since they document our lives, replacing the scrapbooks of yesteryear. Photo books contain unique information about the activities, events and people during a specific time. They represent an unparalleled source of information. Photo books include descriptions and other text that make the material far more useful than an unlabeled stack of prints. Photo books also give context to photos because they contain many related photographs along with corresponding text.

Many options exist to preserve traditional photo books, and in general we can expect a reasonable lifetime if we select high-quality materials [1]. Numerous international standards may be applied to manufacturing photo books. These standards define everything from the type of paper to specific binding requirements, and additional standards specific to photo books are under development.

The nature of preservation must extend beyond the physical object, if we want to ensure that future generations can find, access, and reprint photo books of interest. Photo books may be indexed by Google and other search services. Indexing requires that the original photo book be available in digital form and that related metadata be available, including location, subjects, time period, etc.

## Education

Demand for digital preservation can come directly from consumers or as an outgrowth of manufacturer's marketing efforts. Either way, the process requires education.

Some libraries, such as the U.S. Library of Congress (<http://www.loc.gov/pictures/>), already make photos in their collection available online, but such collections lack much of the information inherent in an organized photo book.

In the future, historical societies, libraries, archives, and museums will benefit from the widespread creation of photo books and the information in those books. These organizations

also serve as potential repositories for photo books. It is in their interest to begin the educational process today.

With education, customers will insist on receiving the PDF files for their photo books, along with the finished book. If a company refuses to provide that file, customers should look elsewhere for their photo books. Eventually all manufacturers would supply the PDF file, since doing so would be a market requirement.

The typical photo book production process includes steps for capture, author, and print [2]. It does not, at this particular time, include a step for digital preservation.

Photo book manufacturers may also educate their customers on the benefits of digital preservation and use this information to enhance their market positioning. The advantage of using digital preservation as a marketing message is that it is far less costly than additional discount promotions targeting the lowest possible price. It costs little for manufacturers to make the photo book PDF files available online. Digital files also have the potential to become self-sustaining promotional messages since they facilitate sharing through social media, which will further increase demand.

Digital files may include or link to added material not included in the printed photo book, such as audio and video files, with the photo book serving as an index to the additional material that is available [3]. Ready access to this material will further enhance the value of the photo book.

Photo book manufacturers will need to maintain the link between the physical object and the photo book file. Such links can either be explicit through inclusion of the related URL or corresponding bar code in the printed photo book or implicit through photo recognition software that automatically links a book to the digital file [4]. An implicit link is advantageous in that the user no longer needs to be concerned about links which may change over time but instead relies on the photographs themselves to maintain the link with the original digital content. Implicit links also allow the photobook to easily link to added external content through augmented reality [5].

## Digital Preservation

Most photos are initially saved as JPEG files; however, JPEG files have severe limitations when it comes to photo books, with the primary limitation being that the JPEG file format is designed for only a single image, rather than multiple pages for a photo book. Using multiple JPEG files is unacceptable due to the relatively high likelihood that the files for the complete photo book will become separated from each other. PDF files are a better solution. PDF files are a better solution since they are intended for multipage projects. In addition, meta data can be embedded in the file, ensuring that search services will be able to locate specific photo books. Unfortunately, most photo book manufacturers fail to provide the PDF required for digital preservation, even though they use the PDF file internally in the production process.

To be useful, the photo book PDF must also include relevant metadata, either added automatically when the file is created or manually at a later time. Ideally, locations, events,

and the names of people would be captured automatically from the captions in the photo book and included as meta data in the PDF file.

Note that while it is possible to scan a photo book to create a digital file, such a file is a poor substitute for the ready availability of the file that was used to create the original photo book in that it will necessarily lack any meta data associated with the original file. It will also image detail present in the original photo book and may exhibit color shifts and image distortion near the spine.

For long-term preservation the PDF/A format [6], as described in ISO 19005-1 to 19005-3, is available, and while the photo book production process may not use PDF/A files, conversion software is available [7].

Finally, the resulting PDF file must be preserved electronically and in a way that it will be indexed, either with a commercial service or elsewhere. The outcome of all of this – digital photo book preservation. It's not here now but it will be in the future.

## Conclusions

Photo book preservation requires thinking of a photo book as more than the physical object. Rather, a photo book consists of the physical object and the files used to create it. True preservation requires preserving both. For without the files, information will be lost or unavailable for future generation

## References

- [1] M. Mizen, "The Importance of Quality in Photo Gift Production," 2nd International Symposium on Technologies for Digital Photo Fulfillment, 2009, pp 25-27.
- [2] P. Sandhaus, S. Thieme, and S. Boll, "Processes of photo book production" *Multimedia Systems*, 2008, 14:351-357. <http://homepages.cwi.nl/~media/projects/canonical/papers/r>
- [3] Q. Lin, J. Liu, and D. Tretter, "Printing in a Digital Age," *IEEE Multimedia*, 2010, 17 (4): 100-107, <http://www.hpl.hp.com/techreports/2010/HPL-2010-113.pdf>, last accessed 7/21/2016.
- [4] N. Henze and S. Boll, "Snap and share your photobooks." In: *Proc. ACM MM*, 2008, <http://www.nhenze.net/uploads/Snap-and-Share-Your-Photobooks.pdf>, last accessed 7/20/2016.
- [5] N. Henze and S. Boll, "Who's That Girl? Handheld Augmented Reality for Printed Photo Books," *Human-Computer Interaction – INTERACT 2011*, 13th IFIP TC 13 International Conference, Lisbon, Portugal, September 5-9, 2011, Proceedings, Part III, pp 134-151, [http://link.springer.com/chapter/10.1007/978-3-642-23765-2\\_10](http://link.springer.com/chapter/10.1007/978-3-642-23765-2_10), last accessed 7/20/2016.
- [6] PDF/A, <https://en.wikipedia.org/wiki/PDF/A>, last accessed 7/21/2015.
- [7] Jamin Koo and C. Chou, "PDF to PDF/A: Evaluation of Converter Software for Implementation in DigitalRepository Workflow," *New Review of Networking Information*, 2013, 18 (1):1-15. [https://fclaweb.fcla.edu/uploads/iPRES\\_PAPER86\\_Abtract.docx](https://fclaweb.fcla.edu/uploads/iPRES_PAPER86_Abtract.docx), last accessed 7/20/2016.

## Author Biography

*Dr. Mark Mizen is a digital preservation expert and publisher of the All About Images blog (<http://allaboutimages.wordpress.com>.) His experience includes all aspects of imaging, including product testing, development, and long-term preservation. He is a Consultant on photo imaging for consumer applications and is involved with photographic standards for image permanence and durability, including photo books, as Task Group Chair and member of ISO TC42 Photography WG5. He has a Ph.D. in Organic Chemistry from the Massachusetts Institute of Technology and a B.S. in Chemistry from the University of Illinois.*