

Paper Summary 1: How Do People Manage Their Digital Photographs?

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As digital devices and media increasingly become an integral part of our daily lives, it is important to understand how users interact with this new form of information; how it is managed, stored, retrieved and archived. In the case of digital photographs, the issues are further complicated by the fact that most people are already familiar with this digital media's physical counterpart: film photographs and developed prints. This natural metaphor is a double-edged sword, as users both expect the natural affordances provided by the film and print system to apply to digital media—often this proves difficult if not impossible—and simultaneously demand additional services applicable to the digital domain. This paper examines this situation with experimentation and case study.

The authors present the results of a six-month, 13-participant study into how people organized and managed their digital photographs using a digital media management tool called Shoebox (evidently developed by Kenneth Wood, among others, during his tenure at AT&T Laboratories Cambridge). The authors briefly mentioned other available media management tools, such as PhotoMesa, FotoFile, and AutoAlbum, but provide no real justification as to why they used this particular tool other than mentioning two advanced features that distinguished it from others: 1) its ability to record and store audio annotations, and transcript them to allow later searching and retrieval, and 2) image analysis tools which allowed the user to select “similar” photos based on algorithms using color and texture.

The researcher's study goals seemed tailored to the media tool, rather than the media tool being selected to aid the study, as implied in the introduction of the paper. Across two rounds of interviews and questionnaires, they asked questions that were designed to answer two main questions: 1) How do users organize and browse their digital photo collections, and how does it differ from their practices with non-digital media, and 2) are advanced tools (such as audio-annotation and image-matching) useful in this context? Obviously, this second question would have been much different had a

different media management tool been selected for the study, but overall, the question could still be considered valid for a range of media selection and workflow tools.

The bulk of the paper contained a summary of the study's findings, and respondent comments from the questionnaires and interviews in the form of anecdotal comments. The central findings were predictable to anyone who has spent any time working with digital media: at the beginning of the study the participants thought that they would use the advanced searching and retrieval mechanism provided, as well as the annotation capabilities (textual and audio) for commenting their collections. After the study was concluded, however, the general consensus was that for everyday, common usage, a chronologically-ordered interface with thumbnail views of the photos was more than sufficient, and the advanced tools required more effort and they provided benefit.

As an example of this behavior the authors reported that during the six-month study only three users had changed the name of a single photograph, opting instead to manage their collections by "roll", or import process from the camera's flash memory. Interestingly, most of the users reported that their digital photo collections were more organized than their physical collections, even though the usage logs of the software indicated that they had not spent any additional effort into organization. "They simply feel more organized, because all of their digital photos are in one place, in folders that correspond roughly to events, in chronological order" [1].

A significant factor in the rejection by the participants of the advanced features of Shoebox was the failure of these features to perform to an adequate standard. In the case of the audio annotations, the transcription process frequently failed to accurately interpret proper nouns such as people and place names, one of the most common tasks requested (one user had to query the system for "deadbeat" to find photos of his friend Debbie). In the case of the image-matching algorithms, the problem appeared to be one of feedback and inaccurate models: the system grouped photos against the user's expectations while failing to include photos that the user thought should be included, and didn't let the user know how to improve or refine the results.

The paper was well written, but did seem to leave some gaps in its handling of the subject matter. For one, this study focused on users whose primary goals with the digital camera were snapshots; different classes of user (such as professional photographers and artists) would likely require different models and tailored study. Additionally, while the paper was published in 2003, the study occurred during spring/summer of 2000, when digital cameras were rare and expensive (in fact, the participants were issued digital camera for the duration of the study). Today, five years later, digital photography is much more commonplace, and the quality has increased dramatically. In 2000, the average resolution of a consumer-grade digital camera was 1 or 2 megapixels; today, the average has jumped to 5—10, bringing with it an explosion in the associated file sizes.

Along with the increased file sizes, many cameras offer the ability to retrieve and store the raw data from the CCD sensor, and each camera manufacturer uses a different file format to store this data (and now Adobe has joined the fray by introducing their new Digital Negative [DNG] format, adding yet another format to the growing list), and any

worthwhile digital media management solution must incorporate the ability to process these formats into its workflow.

This last issue also raises the sticky problem of archiving the media that the tools are managing. The authors acknowledge that long-term storage of digital media is “a concern” [1], but failed to address this issue with the study participants other than questioning their attitudes toward the safety of the digital files as compared to the physical prints, and noted ambiguously that some worried that by lacking physical form the photos were less tangible and easier to lose, but others appreciated the fact that the digital media could be backed up. This meager discussion ignores many of the issues associated with archiving digital media, and should certainly be addressed with further research.

REFERENCES

1. Rodden, M. and Wood, K. How Do People Manage Their Digital Photographs? In *Proceedings of CHI 2003*, 409—416. ACM, 2003.