

# Digital Imaging

The decision to scan should be made by a team. Records creators, records users, records management staff, and IT staff should all be involved. Digital imaging of records can enhance accessibility, workflow, and productivity, but digital imaging projects can also be complex, time-consuming, and cost prohibitive. Besides high initial costs, digital images require proper management including continuous maintenance to ensure the records are trustworthy, complete, and durable for as long as they remain on an agency's records retention schedule and for the possible transfer of records to the State Archives. The operations and needs of state agencies differ; it is important to ensure that a digitization project is adequately staffed, affordable, and tailored to the needs of a specific agency.<sup>1</sup>

What should be scanned is a complex question. Considerations include potential use, access, and cost. Other concerns include record volume, preservation needs, legal restrictions, present and future storage costs, appropriate storage formats, and whether the materials are in high demand. Before beginning any scanning project, input should be sought from the records users, records creators, IT specialists, records managers, and any other staff that might provide valuable input. The following are some of the questions that should be addressed:

- What are the goals for the digitization project?
- What is the desired end result? A document management system? Document preservation? Online search capabilities to facilitate better access to records?
- What materials will be digitized? Textual documents, photographs, or maps? How much material?
- What resources are readily available? Scanners? Software? Expertise?
- What file formats are most suitable for the agency's requirements?
- What image quality is required? Black and white? High resolution?
- What condition are the documents in? Is preparation required (e.g. removing staples and paperclips)?
- What different type(s) of digital storage media will be used?
- What metadata is necessary for each file? Is the metadata readily available or is time needed to gather information?
- How will access be provided to the digital records? Intranet or internet? Offline? DVD, CD, Hard drive?
- How long will the digital files be retained? If the retention schedule dictates a prolonged retention period, what strategies for long-term document preservation must be employed? Will hard-copy documents be kept? What is considered the original?
- Do the benefits of digitization justify the cost of the project?

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<sup>1</sup> Per the National Historic Publications and Records Commission (NHPRC) "a total cost of \$1-\$3 per scan is reasonable for homogeneous textual collections in good condition."  
<http://www.archives.gov/nhprc/announcement/digitizing-faqs.html>

## *Temporary Office Scans Versus Long-Term Scans*

Immediate business needs often differ greatly from preservation scanning needs. Ideally, scanning should be done once, with both immediate use and long-term preservation requirements met. Long-term preservation, however, requires a long-term plan. For example, scans retained for preservation purposes should be made at a high resolution with careful attention to detail. In addition, such high resolution scans require greater storage space, greater security measures, and maintenance plans to ensure access over a period of decades. All of these factors increase the cost of creating as well as maintaining such scans.

## *Providing Access*

The public expects uninterrupted access to digital materials. Luckily electronic records are easily copied and shared. However, this benefit comes with concerns regarding the authenticity of records and must lead to extra security precautions to ensure that the records are not altered by those accessing them. Additionally, a digital repository requires extensive funding and ongoing maintenance. Without proper maintenance data can be lost and recovering data that can not be read is extremely costly.

Providing access will require a plan, time, and money once the records are digitized. How will access be provided to users? Will any specific terms or conditions be configured to allow access? Can records nearing the end of their retention be easily identified in order to determine if they will be transferred to the State Archives or destroyed. How will non-public content be secured? If records are to be presented in court, they generally must be certified. Electronic records can only be certified if they reside in a trusted system as specified in state regulations (2 CCR 22620.1-22620.8). The infrastructure required for such a system is costly and requires long-term planning and budgeting. A major consideration for the trusted system is that it requires the creation and maintenance of redundant copies. Redundant copies require additional storage space, adding to the cost of such digital files.

## *Metadata*

A well thought out scanning project must provide direction and standardized procedures for entering metadata for scanned images to ensure uniformity with all objects involved in the digitization project. Metadata, often referred to as “data about data,” describes the characteristics of the object and provides meaning, context, and organization.

Metadata is an essential component of a digital imaging project. Complete metadata will allow searches by subject heading and keyword. The value of metadata is especially evident when documents are requested for litigation purposes: the ability to quickly and efficiently locate documents can save an agency time and money.

For a more thorough overview of metadata please see the “Metadata” section of the handbook.

## *Project Strategy*

Before beginning a digital imaging project, a plan or strategy for completing the project efficiently and to the best possible standards should be created. A strong strategic plan should be developed with all parties involved in the project (i.e. information technology, legal, etc.). A digital imaging project can prove time consuming and involve many tasks; careful planning can save an agency time and money. Whether the project will be done in-house or contracted out to a vendor, the following should be included in a plan:

- Identifying materials
  - It is important to identify all documents and objects that will be digitized. This will allow for a better understanding of how long the project will take and whether it will be feasible to digitize the selected material. The frequency of use should also be considered when selecting documents for digitization.
- Preparing materials before scanning
  - Preparation includes, but is not limited to, sorting files and removing unnecessary materials such as duplicate documents, removing documents from binders, removing staples and papers clips, and conservation of deteriorating documents.
- Training Staff
  - Staff involved should be trained in the use of any imaging hardware or software, and informed on the best practices for proper metadata creation.
- Preserving documents
  - What long-term strategy is in place for ensuring access to and preservation of digital objects over time?

## *Management and Preservation of Digitized Documents*

How long an agency will maintain custody of digitized documents depends on both operational needs and the required retention period of the record. Managing and preserving electronic records requires a systematic, sustainable, and on-going plan. Periodic checks to see that files haven't been damaged or altered, migration to new formats, and transfers may all be necessary. Maintenance of e-records can be just as costly and time consuming as creating the records in the first place. Data recovery for records that have not been maintained properly is also extremely expensive.

## *Teamwork is Crucial*

Once digitization is complete, a thorough review of the resulting files should then occur. Once all files are deemed acceptable by all parties, it may be time to send the hard copy files to the State Archives if they are records that were flagged for transfer. State Archives staff members are also available for consultation.