Introduction to
Imaging
Revised Edition

Introduction

Few technologies have offered as much potential to change research and teaching in the arts and humanities as **digital** imaging. The possibility of examining rare and unique objects outside the secure, climate-controlled environments of museums and archives liberates collections for study and enjoyment. The ability to display and link collections from around the world breaks down physical barriers to access, and the potential of reaching audiences across social and economic boundaries blurs the distinction between the privileged few and the general public. Like any technology, however, digital imaging is a tool that should be used judiciously and with forethought.

In the earliest stages of the digital era, most digital imaging projects were ad hoc, experimental in nature, and relatively small in scope. The result was a series of idiosyncratic and disconnected projects that died with their creators' tenure or with their storage media, demonstrating that one of the requirements for the establishment of useful, sustainable, and **scalable** digital image collections—collections that are **interoperable** with broader information systems—was the development and implementation of data and technology **standards**.

The line that formerly divided everyday **analog** or traditional activities and specialized digital projects has eroded, and the creation of digital image collections is now an integral and expected part of the workflow of museums and other cultural heritage organizations. Unfortunately, the world of imaging has not necessarily become easier to navigate on that account. A plethora of differing image **format** and **documentation** or **metadata** standards has emerged, and a wide variety of hardware and software designed to create, manage, and store such collections has become available. Not only must collection managers choose between the different hardware, software, and metadata options, but because digital entities differ in fundamental ways from their analog counterparts, the management of hybrid collections (which encompass both digital and analog objects) also requires the development of new and different skill sets and even staff positions. It may also prompt the reappraisal of work processes and protocols within an institution.

In short, the establishment and maintenance of digital image collections are complicated and challenging undertakings that require a long-term commitment. There is no single best practice, best software, or best system for the task, but there are some basic premises and guidelines that can help institutions make the decisions that best fit their own priorities, environment, and budget.

Introduction to Imaging is designed to help curators, librarians, collection managers, administrators, scholars, and students better understand the basic technology and processes involved in building a deep and cohesive set of digital images and linking those images to the information required to access, preserve, and manage them. It identifies the major issues that arise in the process of creating an image collection and outlines some of the options available and choices that must be made. Areas of particular concern include **integration** and interoperability with other information resources and activities; the development of a strategy that does not limit or foreclose future options and that offers a likely upgrade path; and ensuring the longevity of **digital assets**.

Our discussion begins with a brief review of some key concepts and terms basic to an understanding of digital imaging. A **digital image** is understood here as a **raster** or **bitmapped** representation of an analog work of art or artifact. **Vector graphics**, geometrical objects such as those created by drawing software or **CAD** (computer-aided design) systems, and other works that are "**born digital**" are not specifically dealt with here, nor are images made with different light-wave lengths, such as X-radiographs. However, much of the information on the importance of metadata, standards, and **preservation** is relevant to all digital files of whatever type and provenance.

For those planning a digital image collection, this overview is merely a beginning. Other resources are outlined, and additional sources of information are included in the bibliography. Acronyms and jargon abound in the digital imaging and the digital library universes. Every effort has been made here to avoid these when possible and to explain them where they are unavoidable.

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