Digital Preservation Policy
History San José

(Approved by Collections Committee 1/19/2017)

1. Introduction

This statement outlines History San José's ("HSJ") policy on preserving its digital collections, and collaborating with others to preserve digital information resources.

HSJ's digital preservation program forms part of its overarching *Collections Management Policy* which covers all formats of material HSJ collects. This policy should be read in conjunction with other policy documents and guidelines relevant to the way digital resources are created, selected, acquired, described and accessed.

2. The objectives of HSJ's digital preservation activities

HSJ's preservation role is guided by our mission statement to preserve and enrich the cultural heritage of San Jose and the Santa Clara Valley through research, collections, partnerships, educational programs and events, and to ensure these collections remain available for current and future use. HSJ recognises digital information resources as an important and growing component of our collecting and preservation responsibilities.

HSJ has been developing infrastructure to collect, manage, preserve and keep our digital collections available. This is recognised as ongoing core business for HSJ and is critical to its future relevance.

HSJ defines the primary objective of digital preservation activities as maintaining the ability to meaningfully access digital collection content over time. The primary concern is preserving the ability to access the Preservation Master File from which derivatives files may be created or re-created over time. To this end, preservation of digital Museum material includes:

- Bit-level preservation of all digital objects which means keeping the original files intact;
- Ensuring that authenticity and provenance is maintained;
- Ensuring that appropriate preservation information is maintained;
- Understanding and reporting on risks which affect ongoing access;
- Performing appropriate actions on sets of digital objects to ensure that the objects continue to be accessible; and
- Periodic review of preferred formats and digital metadata standards

3. The nature of HSJ's digital collections

HSJ began acquiring and creating digital information resources of enduring value around the mid-1990s. The digital information resources for which we currently accept some level of preservation responsibility include:

- Preservation master copies produced by digitisation of analogue materials from HSJ's collections (and in some cases from private collections, as "digital donations");
- Original unpublished digital files acquired or produced for inclusion in HSJ's Archival Collections (e.g. Manuscripts, Pictures, Maps, Sound and Video Recordings);
- Data captured during the course of documenting artifacts and structures, e.g. 3D reality capture.

Over time, this list of resource types can be expected to change in response to new business needs and opportunities, and reflect new forms of electronic publishing and communication.

4. The challenges of keeping digital information resources accessible

HSJ's digital collections are diverse in terms of types of collection materials, sources, and levels of control or influence over their creation, and are expected to continue growing.

Ongoing access to digital resources is threatened by many challenges. From a preservation point of view, the challenges include:

- Media and technological obsolescence which affect collection access;
- A wide range of file formats (and carrier formats);
- Exponential scale and growth of digital collections;
- A mix of materials needing to be kept in perpetuity, along with materials that can be discarded after specified periods or events;
- Mixed levels of complexity in terms of object structure, relationships and dependencies;
- Mixed levels of intellectual control;
- Different levels of complexity in preservation planning and processing;
- Different timetables for preservation action;
- A need for different preservation approaches, often at different scales; and
- A need for recurring – and possibly changing - preservation action cycles over time, using a changing suite of tools.
- Access may be either online (the preferred delivery method) or limited to offline (local), depending upon the nature of the preservation action/s required and their associated technical constraints.

HSJ's digital preservation programs aim to address or at least take account of these challenges.

5. Broad directions for preserving HSJ's digital collections

Scope

It is HSJ's general intention to preserve the accessibility and usability of the majority of digital materials in its collections. Preservation Intent can be described as the agreed expectations for preservation of different categories of content: for instance, whether content is to be preserved; who is responsible for preservation of the content; the period over which content must be preserved; and the required level of support for access to the content over time. However, because of resource pressures, HSJ may have to allocate priorities for action. These will be decided by Collections staff based on the relative significance of particular materials and on the technical complexity of preserving access to them.

Preserving accessibility

Preservation of HSJ's digital collections involves four main goals:
- Maintaining access to reliable data at bit-stream level;
- Maintaining access to content encoded in the bit streams;
- Maintaining access to the intended contextual and intellectual meaning of the content; and
- Maintaining the stated preservation intent for all digital material over time.

While specific preservation activities may focus on one or more of these goals, HSJ's preservation responsibility is only fulfilled when all four goals have been adequately addressed. This responsibility applies across all digital collections, subject to curatorial and policy decisions for specific groups of digital objects.

The decision about what digital material is accepted into the collection will be the responsibility of the Collections Department Curators. Although HSJ's Collections Management Policy underpins this decision-making, collections staff will need to consider HSJ's ability to provide access to this material over time. While there are no predetermined restrictions on the formats that will be accepted into HSJ's repository, a decision about whether or not to accept the material will need to take into account the current level of support that can be provided for the known formats contained in the collection or collection item.

Formats that cannot be identified are not supported by HSJ (unless subsequently identified in a later process). However, they will still be preserved in the repository with the standard integrity checks and backup support such that they can be reproduced at the bit-level at any time; however, there is no guarantee that access to the content can be provided at any time in the future, even though an exact copy of the original deposited files is still held in the repository.

The Collections Curators must decide, based on the available level of support, whether it is worth keeping this material, and should discuss with the depositor possible alternative formats for the content with a higher level of support.

Models and standards

HSJ believes its digital preservation objectives will be best achieved by developing or adopting practices and infrastructure that comply with a coherent framework for reliable and manageable digital archives.

HSJ uses the broad understandings and concepts embodied in the Open Archival Information Systems (OAIS) Reference Model [2] as a conceptual check for its own archive construction and management. In developing or adopting relevant systems and infrastructure, the Museum aims to operate within the principles of reliable digital repositories as defined by international standards and best practices (e.g. PREMIS [3], Open Planets Foundation [4]).

HSJ also recognises the value of practical experiments in developing useful new approaches. HSJ will continue to develop process models addressing our particular business needs.

6. Policy implementation

Implementation of this policy will be contingent on the infrastructure provided by HSJ and the availability of cost-effective solutions. These are influenced by expected rates of growth in the size of HSJ's collections, changes in technologies, and infrastructure replacement cycles. In implementing this policy with regard to its own collections, HSJ will seek to apply certain principles.

HSJ:

- Recognises that preservation action is an inherent cost of collecting (unless there is an explicit intention not to preserve), and seeks to understand the costs associated with appraising, acquiring, managing and maintaining access to digital collection materials;
- Attempts to allocate adequate and appropriate resources and infrastructure for sustained preservation action, but may need to tailor its collecting programs to take account of the ability to preserve and the availability of resources to do it; and
- Attempts to ensure sufficient trained staff are available to manage the processes required to preserve our digital collections.

To implement the Policy HSJ must:

- Assist collection areas with analysis and assessment of digital material during the acquisition phase;
- Understand what it holds in its collections;

- Understand what its preservation intentions are for every digital object and what is required to realise those intentions;
- Understand what is required to provide access, if there are any inhibitors to access, and the current level of support HSJ is able to provide;
- Evaluate and monitor the degree of risk arising from collection composition, preservation intentions and available level of support within HSJ for digital collection content;
- Anticipate the effects of changes in support;
- Recognise planning triggers, and plan and take appropriate action on a scale appropriate to the size of the target; and
- Audit the effectiveness of its preservation arrangements and modify the arrangements if necessary.

Systems and arrangements to address these preservation challenges must enable Museum staff to deal efficiently, effectively and accountably with hundreds of objects, in diverse formats and collection contexts for access in diverse end user environments. Such systems and arrangements will need to support bulk processes while offering the necessary flexibility to tailor both large- and small-scale preservation actions.

With regard to coordination and planning of HSJ's preservation efforts, we:

- Will take actions based on summary reports of digital content (composition and characteristics of our digital collections), metadata characteristics and risks across collections or defined sets of managed content;
- Based on these reports we will compare metadata, preservation intent, significance and defined risks for managed content, in conjunction with detailed reference information and resource inventory knowledge bases (e.g. information about and associations between file formats and versions, software, hardware and levels of support) to evaluate risk and prioritise preservation planning and action;
- Aim to plan our preservation action proactively, providing sufficient lead time for appropriate infrastructure to be put in place to support the required action;
- Will consider the following broad preservation action approaches that are likely to be required:
  - Format migration at the point of collecting;
  - Format migration on recognition of risks;
  - Format migration at the point of delivery;
  - Emulation of various levels of software and hardware environments;
  - Maintenance or supply of appropriate software or hardware;
  - Documenting known problems for which no other action can be taken; and
  - Deaccessioning or deletion.

We expect to use a range of approaches to maintaining access to all the digital resources in our care. HSJ will choose the most appropriate approaches to achieve our preservation objectives.

7. Research and standards

~~HSJ will continue to research areas in which we need more knowledge in order to manage our digital collections effectively. Current knowledge is not adequate to address these policy directions satisfactorily; and our needs will also change over time.~~ HSJ will continue to research areas in which we need more knowledge in order to manage our digital collections effectively, including keeping abreast of the research efforts and conclusions of other organizations with similar concerns. Current knowledge is not adequate to address these policy directions satisfactorily; and our needs will also change over time.

8. Working with others to preserve Santa Clara County's digital information resources

HSJ is one of many players with an interest in ensuring the region's documentary heritage is preserved and remains accessible. HSJ seeks to work with others who are taking, or could take, responsibility for preserving elements of the region's digital information heritage. In working with such partners, HSJ aims to:

- Identify appropriate partners and stakeholders able to contribute to a regional effort;
- Establish agreements on responsibilities and roles that offer a reliable basis for ongoing accessibility;
- Help develop and promote policies, procedures and tools to support such an aim;
- Work with producers and re-users of digital content to encourage practices that will enable, rather than hinder, preservation; and
- Work with governments to develop legislative and funding frameworks to enable cost-effective preservation.

9. Working with others to foster digital preservation

HSJ places great importance on working with others to develop strategies and practices that support digital preservation. HSJ aims to:
- Freely share information on our approaches, systems, strategies, tools and experiences;
- Learn from the experience of others as well as our own experience;
- Support mechanisms for comparing approaches and strategies, and for reviewing developments; and
- Participate in research and development projects where there is an identifiable benefit to HSJ and to others involved in preserving the region's digital information resources.

Contact

The Curator of Library & Archives at History San José is responsible for Digital Preservation and for leading its coordinated implementation.

Text in this document has been amended from the National Library of Australia's Digital Preservation Policy 4th Edition (2013) [4].

Endnotes
[1] OAIS - Reference Model for an Open Archival Information System (viewed 24 May 2012)
[2] PREMIS - PREMIS Data Dictionary for Preservation Metadata Version 2.1(viewed 24 May 2012)
[3] Open Planets Foundation (viewed 24 May 2012)
[4] National Library of Australia Digital Preservation Policy (viewed March 20, 2016)