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Bishop Museum Library & Archives

The Bernice Pauahi Bishop Museum requests $150,000 from the Institute of Museum and Library Services (IMLS) Native Hawaiian Library Services program to support *Hō Mai ka ʻIke: Reconnecting with the Judd Family Papers* for two years, to create online access to one of the most historically significant yet unknown manuscript collections documenting the history of Hawaiʻi. The Judd Family Papers comprise the journals, documents, and correspondence of the Judd family from approximately 1823 to 1903. The most visible figures in the collection are Gerrit Parmele Judd, M.D. (1803–1873) and his son Albert Francis Judd Sr. (1838–1900), both of whom were intimately involved in the government of the Kingdom of Hawaiʻi during a period of tremendous cultural and political change. While the papers include materials created by Judd family members, the vast composition of the collection reflects the authorship and intentions of diverse voices from the family's circle of associates, both personal and professional. Among them are correspondents whose lives contributed to the shape and trajectory of Hawaiian history: Robert Crichton Wyllie (1798–1885), John Papa ʻĪʻī (1800–1870), Timoteo Haʻalilio (1808–1844), Charles Reed Bishop (1822–1915), King Kamehameha III (1813–1854), and Mark Twain (1835–1910). The collection has been opened to the public after fulfilling the stipulations of a donor agreement that placed strict restrictions on access. Released from this agreement, Bishop Museum Library & Archives is positioned to reappraise our stewardship of the Judd Family Papers, and to focus recent improvements to our digital capacity in service to this valuable, unique collection. *Hō Mai ka ʻIke*, to bring forth knowledge, will generate wide visibility to the Judd Family Papers through the creation of a complete, online catalog of documents written in English and ʻōlelo Hawaiʻi (Hawaiian language). The project provides substantial improvements to the arrangement and description of an estimated 2,400 items in the collection written in ʻōlelo Hawaiʻi and prioritizes their digital preservation and free online access. *Hō Mai ka ʻIke* will contribute to the preservation and revitalization of the language, culture, and history of Hawaiʻi to support a vibrant and thriving Native Hawaiian community.

Project Justification

Hō Mai ka ʻIke: Reconnecting with the Judd Family Papers fulfills the following IMLS Native Hawaiian Library Services program goal and objective:

- **Goal 3:** Enhance the preservation and revitalization of Native Hawaiian culture and language.
- **Objective 3.2:** Support the preservation of content of unique and specific value to Native Hawaiian communities.

Background

Dr. Gerrit Parmele (G. P.) Judd and his wife Laura Fish Judd (1804–1872) came to Hawaiʻi in 1828 in the company of missionaries sent by the American Board of Commissioners for Foreign Missions to convert Native Hawaiians to Protestant Christianity. Dr. Judd was a trained physician and put his skills to work immediately upon arrival, attending to the needs of both missionaries and Native Hawaiians. In the course of this work, he endeared himself to a number of aliʻi (chiefs), especially Kaʻahumanu, Kuhina Nui (Prime Minister) of the Kingdom of Hawaiʻi. This earned him the trust of many in the royal family who, while initially asking him to serve as an interpreter, gradually came to rely upon his counsel for a wide range of state matters. Dr. Judd would ultimately resign his place in the mission, accepting a royal

appointment to government office in 1842. The scope of Dr. Judd's government role quickly expanded. He held various titles throughout his career, including Recorder and Translator, President of the Treasury Board, Minister of Foreign Affairs, Minister of the Interior, and Minister of Finance. He was a member of the House of Nobles as well as the House of Representatives, in addition to being a member of King Kamehameha III's Privy Council for nearly a decade. While serving in these various offices, Dr. Judd originated or managed a vast array of government initiatives.

Dr. Judd and Laura Fish Judd's fifth child Albert Francis would follow his father into public service at the highest levels of the Hawaiian government. His career began in the military, as a Captain in the Hawaiian Cavalry. He then went on to serve in the House of Representatives, the House of Nobles, and as Attorney General. He was on the Privy Council from 1873 until the Kingdom was otherthrown in 1893. He was initially named Associate Justice of the Supreme Court in 1874 only to be named Chief Justice in 1881. He held this position until his death in 1900. In total Albert Francis Judd held the title Chief Justice of the Supreme Court for over twenty-five years under four different governments: Kingdom, Provisional, Republic, and Territory.

The collected papers of the Judd family contain the journals, documents, personal correspondences, and official correspondences from approximately 1823 to 1903. Selected highlights include:

- 1834 Journal of Dr. Gerritt Judd's journey around the island of O'ahu with Princess Nāhi'ena'ena (1815–1836) (in English)
- Dr. Gerritt Judd's medical journals and correspondences that document nineteenth century Hawaiian medical practices as they merge with Western medicine and techniques (in English and Hawaiian)
- Documents concerning the rationale, method, and implementation of a new land tenure system in Hawai'i beginning in 1848 (in English and Hawaiian)
- Secret instructions given to Dr. Gerritt Judd from Kamehameha III on September 7, 1849 empowering Judd to conduct negotiations to place the Kingdom of Hawai'i under foreign production and rule in the event that the islands are endangered (in English and Hawaiian
- Records of the constitutional convention of 1864 (in English and Hawaiian)
- Extensive legal documents and court records from 1874 to 1900 that include documentation on the evolution of Hawai'i's legal system (in English and Hawaiian)
- The handwritten Bar Examination taken by Sanford B. Dole on April 13, 1892, less than a year before he was installed as the President of Provisional Government of Hawaii following the overthrow of the Kingdom of Hawai'i in 1893. Sanford B. Dole would later be elected President of the Republic of Hawai'i (in English)
- Undescribed letters in Hawaiian from 1840s–1900, arranged by decade (see Sample Hawaiian Language Letters in Supportingdoc1.pdf)

The Judd Family Papers, comprising forty-two linear feet of manuscript material in English and 'ōlelo Hawai'i (Hawaiian language), were deposited in the Bishop Museum in two stages. The first transaction occurred in 1922 by a Judd descendent who was a Museum trustee. While the collection was physically

housed in Library & Archives, ownership passed down via inheritance several times until the collection was finally deeded to Bishop Museum in 1974. However, the deed stipulated extreme access restrictions. Until the deaths of specified parties named in the deed, all access, including by Museum staff, was required to be personally vetted by the family. Researchers had to first request access from the family representative. If approved, this led to a search of the collection which could only be performed by the head of the archives who was given no more than an hour to find any relevant documents. If this abbreviated search yielded results, the materials were not to be shown to the researcher. They were instead given transcripts generated by Museum staff. Should a researcher, having endured this gauntlet, find themselves with a transcript in hand, they were unable to cite the material in any publication without additional approval. Under these extraordinarily stringent parameters, only seventeen total requests for access are on record. Of these, ten were approved, and only two led to publications.

Partial processing of the Judd Family Papers by select individuals from the family occurred in the 1980s. Their efforts strongly favored English-language materials for which a fairly comprehensive finding aid was generated. An estimated 2,400 documents written in ʻōlelo Hawaiʻi were left largely undescribed. These Hawaiian language papers were simply assembled in rough chronological order and placed in boxes labeled "In Hawaiian." The implication of this history is that the Judd Family Papers hold important Hawaiian language materials and neither we, the staff of Library & Archives, nor our community have real knowledge of them.

Project Need

The Judd Family Papers are rich with primary-source insight into 19th century Hawaiʻi. Yet, the collection has been subject to such excessive levels of restriction that it remains an unknown resource. There is clear disparity between the unique significance of the materials for Hawaiian cultural understanding and scholarship, and their history of community access. With the collection fully under the stewardship of Bishop Museum, we must act upon our kuleana (duty and responsibility) to bring it forth as a source of knowledge. The Museum has recently made significant investments in its digital future. Recent infrastructural improvements have increased server capacity, network security, and digital storytelling capability. The Library & Archives has also focused on departmental initiatives to create, secure, and share our digital assets. We have created an in-house Digitization Lab capable of producing images which meet the highest standards of quality and fidelity for cultural heritage digitization (FADGI 4-star). We are transitioning from multiple, aging collections databases to a centralized, custom build of the Axiell EMu Collections Management System which will go live in April 2022. *Hō Mai ka ʻIke* is an opportunity to leverage these investments to create a complete, online catalog to the Judd Family Papers, and digitize all items written in ʻōlelo Hawaiʻi for preservation and online access.

Bishop Museum Library & Archives currently cares for over 220,000 published works and well over two million primary source materials related to Hawaiʻi and the Pacific. Our collections are a resource for Bishop Museum curators, researchers, scientists, and communications. However, we primarily serve a global research community with no affiliation to Bishop Museum, especially Native Hawaiians and Pacific Islanders residing in Hawaiʻi and in diaspora. In FY19, 36.2% of our patrons self-identified as

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Native Hawaiian. For this population, the target group for *Hō Mai ka ʻIke*, the Library & Archives is an essential resource for Native Hawaiian knowledge and for the understanding of Native Hawaiian positionality throughout global history. Currently, access to our collections is primarily limited to those who live on or are able to travel to Oʻahu. In 2020, the COVID-19 pandemic and restrictions further limited in-person access, with regular public reference hours temporarily replaced by phone and online services.

Bishop Museum has experienced a significant decrease in in-person visits since March 2020, but has expanded its digital reach. In 2021 the Museum's website received 2,104,875 page views from over 539,589 unique visitors exploring its diverse offerings: collection databases, online catalogs, educational resources, exhibit and program information, and blogs. Our community will never stop seeking knowledge. As a museum, a library, and an archive, we are at a momentous juncture in time to support this need.

Improving online access in Library & Archives addresses the need to reach 45% of Native Hawaiians who, according to 2010 census data, live outside of Hawaiʻi (U.S. Census Bureau). Research has shown that Native Hawaiians living away from Hawaiʻi's shores struggle with feeling disconnected from their communities, often questioning their own "Hawaiian-ness." In fact, the results of a 2017 survey of community stakeholders regarding Bishop Museum's collections found 78% of users identified increased accessibility as Library & Archives' greatest need:

"Digitization is a godsend for accessibility. The BM [Bishop Museum] must make the investments and the benefits will be unfathomable, especially targeting a highly threatened Hawaiian identity through the Hawaiian language... And therefore the Bishop Museum should also render accessible all other forms of Hawaiian language documentation, besides mele and newspaper print that remain in the confines of the walls of the Museum."—survey participant, 2017

In a 2020 Library & Archives survey of users, 92% of participants identified the Library & Archives social media posts as significantly increasing their engagement with Hawaiian knowledge. But in this same survey, 50% of participants again cited increased online accessibility as the greatest need. These survey results reveal that while inaccessibility in our collections is a challenge for our patrons, inaccessibility for Native Hawaiians is deeply personal and acutely felt. It is our responsibility as stewards to both meet the needs of our Library & Archives patrons and to serve the larger Native Hawaiian community who are the ultimate beneficiaries of knowledge supporting Hawaiian-language learning, cultural practices, and understanding.

Project Work Plan

The *Hō Mai ka ʻIke* team is comprised of key Bishop Museum Library & Archives staff who collaborate to make our resources accessible, searchable, and secure. The Digital Assets Manager and Project Director will plan and manage all project work. Implementation will be a cooperative effort involving the Project Director, a newly hired Resource Specialist, and collections management staff. These three areas of responsibility and expertise represent the project's core. Additional assistance will come from other

members of Bishop Museum staff via prescribed Museum procedures to include the Director of the Library & Archives and Museum accounting staff for larger departmental budgeting and financial project management, the Informatics department for the implementation of our cataloging software and data management policies, and the Communications team for project publicity needs.

Project activities will occur in the following sequential phases:

Phase 1: Announcement, Team Building, Training, and Gathering Resources
1. Press release at the start of the project period
2. Survey measuring target group's satisfaction with Library & Archives online accessibility
3. Develop social media and outreach campaign schedule
4. Advertise, interview, and hire Resource Specialist
5. Purchase equipment and software
6. Train project staff in digital catalog software (EMu), metadata standards and procedures, digitization standards and procedures, and collections handling

Phase 2: Collections Assessment and Workflow Strategizing
1. Create tools for monitoring project activities and progress
2. Schedule regular project meetings and reviews
3. Review, revise, and reformat existing finding aid
4. Generate inventory and digitization queue of Hawaiian-language materials
5. Establish cataloging procedures in accordance with departmental standards and best practices
6. Schedule digitization sessions in coordination with departmental digitization lab activities
7. Create pilot catalog records and digitized images for review
8. Revisit training and process procedures as needed

Phase 3: Production
1. Core Workflow: (a) and (b) will occur in tandem
   a. Create catalog records
   b. Photograph Hawaiian-language materials
2. Perform weekly quality control checks
3. Review meeting schedule and adjust workflow as needed

Phase 4: Distribution
1. Deliver catalog records to Museum website team
2. Deliver formatted images of Hawaiian-language materials to Museum website team
3. Go live with public interface
4. Press release to coincide with the online launch

Phase 5: Project Reporting, Review, and Planning
1. Follow-up survey measuring target group's satisfaction with Library & Archives online accessibility
2. Web analytics comparing pre and post launch traffic

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3. Project meeting assessing strengths, weaknesses, outstanding needs
4. Deliver public presentation hosted by the Museum
5. Generate Final Report
6. Plan for continuing the work of *Hō Mai ka 'Ike* as a departmental initiative

Ongoing Activities: Communications, Interim Reporting, and Travel (scheduled in accordance with project activities and award requirements)
1. Generate content for outreach campaign
2. Generate and deliver interim reports
3. Attend IMLS-designated meetings

Post-Project Activity: Performance measurements and project expansion
1. Continue planning and implementation of *Hō Mai ka 'Ike* as a departmental initiative
2. Follow-up survey assessing target group's satisfaction Library & Archives online accessibility to be distributed six months after the end of the project period
3. Ongoing web analytics

The most important resource for project completion is the onboarding of a Resource Specialist with the appropriate skillset as defined in the job description (see Resumes component) to perform data entry and digitization. Given the extent of the Judd Family Papers, a two-year project period is needed to accomplish the work. A reliable computer and licenses for EMu (collections management/digital cataloging) and Adobe Creative Cloud for use in image processing and conversion are required. Digitization of collections materials sufficient to meet industry-standard specifications requires allocating time to the project in the Library & Archives digitization lab which is equipped with custom lighting, a specialized camera and copy stand, as well as a computer to operate the tethered camera. Project staff will also require the reference materials contained in the Museum's general collections to aid in the identification and contextualization of materials during cataloging. We will be reliant upon the Bishop Museum's digital infrastructure for networking, data storage, backups, and web hosting. Press releases and social media posts will proceed through the established Museum's Communications processes. The public program will be developed in collaboration with the Museum's Education and Communications departments. All project-related work within the usual responsibilities of Museum personnel, regardless of department, will be supported by Museum funds and not subject to the project's budget.

Project Risks
The chief programmatic risk to the success of the *Hō Mai ka 'Ike* project is the ongoing Covid-19 pandemic. Physical access to the materials is a prerequisite for most of the work, and the emergence of novel variants resulting in government-mandated closure would hamper progress. Should this occur, staff will shift to scheduled digitization time in the lab to maintain social distancing mandates and will work remotely on catalog entry based on the finding aid and digitized files. In the absence of mandatory closures, staff will continue to practice social-distancing, masking, and other relevant precautions as indicated by health authorities and in accordance with Bishop Museum's own policies.

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The extensive and convoluted history of the collection may also present an ethical risk. Based on the extreme restrictions dictated by the Judd family in the Deed of Gift, this project may uncover potentially disparaging information about the family itself and their extensive circle of associates. The agreement also maintained that after the deaths of the family members named in the deed, Bishop Museum should manage the collection in a way consistent with Library & Archives policies. Given the family's consent to adhere to our policies, should an ethical risk arise with respect to the donor family, we will continue to account for and make available all materials according to the project plan. However, our obligation to the Native Hawaiian community supersedes general access policies. Should the Museum's cultural knowledge group Hui ʻImiʻikepono, of which the Director of the Library & Archives is a member, determine an ethical risk exists with respect to Native Hawaiian interests, we will adjust our approach to those specific documents. If appropriate, Library & Archives will integrate Indigenous knowledge stewardship systems, particularly the Local Contexts initiative, in the management of that document and its metadata.

The Local Contexts initiative "supports Indigenous communities to manage their intellectual and cultural property, cultural heritage, environmental data, and genetic resources within digital environments." We believe their system of Traditional Knowledge (TK) and Biocultural (BC) Labels addresses a significant, pervasive issue in museums, libraries, and archives where cultural materials have been separated from their source communities and digitized materials are often placed online without consideration for their genealogy. The Library & Archives is presently in conversation with Local Contexts to design ways of incorporating TK and BC Labels, based on the EMu module for managing copyright and permit information. Making institutional decisions on how best to incorporate these management Labels into EMu, into our daily interactions with collections, and into our work in community will provide a strong foundation for our stewardship of Indigenous knowledge. Selected items in the Judd Family Papers that pose an ethical risk to the Native Hawaiian community will be reserved for review and subject to the planned Local Contexts process.

The project will generate catalog metadata and digital images that will be made available to the public online. We will additionally work with the Bishop Museum's Communications team for at least two press releases, one at the start of the project, and one to coincide with our online launch. We will also develop a schedule of social media posts that will expand the reach of the project work and the materials being produced. These social media posts will have a permanent home on the Library & Archives blog and will be tracked via web analytics. Project findings will also be the subject of a public presentation hosted by the Museum to be scheduled in early 2024. The presentation will be accessible via the Zoom platform, recorded, and included on Bishop Museum's website.

Project Results

"We envision a future in which Bishop Museum is a source of knowledge for Hawaiʻi, the greater Pacific region, and the world—to promote a global culture that is rooted in Indigenous values and sustainable practices." This vision statement relies on an assumption that the Hawaiian language and culture continue to thrive. As caretakers of some of the most important and impactful sources of Hawaiian

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language, cultural, and historical knowledge, Bishop Museum has a profound responsibility to actively address cultural resilience and to bring forth this knowledge.

The Judd Family Papers, compiled by individuals with over a century of involvement in Hawaiian political, social, religious, health, and economic affairs, is a generally unknown resource. While the English language materials are accessible in-person via a finding aid, the ʻōlelo Hawaiʻi (Hawaiian language) materials, estimated to include 2,400 individual documents, remain largely untouched.

Hō Mai ka ʻIke will address this critical problem by opening possibilities for our community to engage with these primary resources, to take meaning from the words and contexts, and to integrate new understandings and clarity into Hawaiian history and culture through ancestral language. A speculative assessment of a change in knowledge for our community as a result of the *Hō Mai ka ʻIke* project work is difficult to determine. However, we can be certain that the Judd Family Papers and the Hawaiian language documents within, hold vast knowledge potential that when finally brought forth, will resonate throughout Hawaiian communities and academia—supporting Hawaiian-language learning, cultural practices, and understanding.

Project staff will improve the item-level arrangement of documents and catalog all ninety-two boxes (forty-two linear feet) in the Library & Archives EMu collections management system for online access and searchability. Furthermore, the project will utilize leading imaging technology for cultural heritage collections to digitize all 2,400 documents (approximately 7,000 digitized pages) written in ʻōlelo Hawaiʻi for preservation and freely accessible online access. The project will be shared with the communities we serve through both formal communications channels and social media posts. We also envision that new and improved procedures will emerge throughout the course of the project's life. Assessments of daily procedures, project progress reports, ongoing web analytics, and a series of surveys distributed to our target group to measure satisfaction with Library & Archives online access will ensure that the project operates at optimum efficiency. This knowledge will be applied towards the sustained forward movement of *Hō Mai ka ʻIke*.

Hō Mai ka ʻIke will continue to evolve beyond the grant period into an initiative that further unites community with the knowledge we steward. The project will serve as the starting point and framework for a larger initiative focused on the targeted cataloging and digital preservation of Library & Archives collections materials in ʻōlelo Hawaiʻi for free online access. While we steward English language materials of vital importance, focusing on nineteenth-century archival collections in ʻōlelo Hawaiʻi is critically important for the preservation and perpetuation of Hawaiian culture. This work is long overdue and essential for a vibrant and thriving Hawaiʻi. *Hō Mai ka ʻIke* begins our archival re-discovery of a legacy of ancestral brilliance and ingenuity.

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Phase	Activity	Pre	2022 SEP	OCT	NOV	DEC	2023 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	2024 JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG
1	**Announcement, Team, Training, and Resources**																									
	Press release (released at project start)	■																								
	Initial target group satisfaction survey		■																							
	Develop outreach campaign schedule		■																							
	Advertise, interview, hire Resource Specialist	■	■																							
	Purchase equipment and software		■																							
	Train new staff		■	■																						
2	**Collections Assessment and Workflow Strategizing**																									
	Develop project management strategies			■																						
	Schedule project meetings and reviews			■																						
	Review, revise, and reformat finding aid				■																					
	Generate HL inventory and digitization queue				■																					
	Establish cataloging procedures				■																					
	Schedule digitization sessions					■																				
	Create pilot records and images					■																				
	Revisit training and equipment needs					■																				
3	**Production**																									
	Core workflow (cataloging and digitization)						■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Weekly quality control checks							■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■		
	Review meeting schedule and adjust workflow							■		■		■		■		■		■		■		■		■		
4	**Distribution**																									
	Deliver catalog records for website																								■	
	Deliver files of digitized items for website																								■	
	Go live with public interface																								■	
	Press release announcing online launch																								■	
5	**Reporting, Review, and Planning for Future**																									
	Project wrap-up and assessment meeting																									■
	Pre/Post launch web analytics																					■	■	■	■	
	Deliver public presentation hosted by Museum																									■
	Generate final project report																									■
	Plan for continuation of project work																									■

Ongoing Activities		
Generate content for outreach campaign	Generate and deliver interim reports	Attend IMLS-designated meetings

Post-Project Activity		
Continue project work as departmental initiative	Follow-up target group satisfaction survey	Ongoing web analytics

Schedule of Completion

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Type

Two types of digital products will be created for the *Hō Mai ka ʻIke* project: catalog metadata describing the materials in the Judd Family Papers and digital images of the Hawaiian language materials.

Metadata creation for the *Hō Mai ka ʻIke* project will conform to the departmental metadata standards of the Bishop Museum's Library & Archives. We employ the Society of American Archivists (SAA)'s *Encoded Archival Description (EAD)* metadata schema (version EAD3 1.1.1). Generated descriptive metadata conforms with the guidelines specified in *Describing Archives: A Content Standard (DACS)* and *Cataloging Cultural Objects: A Guide to Describing Cultural Works and Their Images*. Controlled vocabularies are established where appropriate, drawing from extant, widely-adopted controlled vocabularies including *Library of Congress Subject Headings (LCSH)*, *Library of Congress Genre/Form Terms for Library and Archival Materials (LCGFT)*, and *Thesaurus for Graphic Materials (TGM): Subject and Genre Terms*.

Departmental standards for photographing cultural heritage objects conform to the Federal Agencies Digitization Guidelines Initiative's *Technical Guidelines for Digitizing Cultural Heritage Materials* (FADGI). The project workflow will treat the Judd Family Papers as rare or special materials in line with standard archival practice, and will ensure that technical specifications meet the highest, 4-star standard.

Preservation images will be in uncompressed TIFF 6.0 format with 400 pixels per inch resolution, a bit depth of 8, and in full Adobe RGB color. For images created as part of the project, we will follow departmental standard practice in using the Dublin Core Metadata Initiative's metadata terms, including the addition of appropriate copyright.

Our Digitization Lab is equipped with a PhaseOne iXH 150MP camera back with an iXH 72mm Mark 2 lens mounted on a Digital Transitions Titan copy stand. The camera is tethered to a MacPro equipped with a 3.3GHz 12-core Intel Xeon W processor, 96GB of DDR4 ECC memory, two Radeon Pro W5700X graphics cards with 16GB of onboard GDDR6 memory, and 4 TB of SSD storage. We run CaptureOne to operate the camera and for image processing and derivative generation. Our monitor is an Eizo ColorEdge Monitor (CG279X). Two, stand-mounted DT Photon XL LED lights are used for illumination.

We employ a custom ICC color profile generated using basICColor 6. FADGI conformance is measured using the GoldenThread and a GoldenThread/FADGI 19264 Device Target.

Availability

Images and metadata created by the project will be made freely available online. The system will enable users to search the collection, view images of digitized documents, and link to related items in the collection in a way that facilitates accessibility and discoverability. It will directly connect to the live EMu database through EMu's IMu API allowing for seamless daily updates and additions of new content as work on the Judd Family Papers continues beyond the end of the grant period.

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Access

Bishop Museum will retain ownership of all digital assets. Digital images can be used for personal use without restriction. Digital images for non-personal use will be subject to Bishop Museum Terms and Conditions for Purchasing and Using Images. Products created will not implicate privacy concerns and should not implicate cultural sensitivities. Should cultural sensitivities arise, the specific products of concern will be integrated into Indigenous knowledge stewardship systems, particularly the Local Contexts initiative.

Sustainability

The centralized Axiell EMu Collections Management System (CMS) will be the repository for all object metadata and multimedia files organized for the project. Bishop Museum has committed to using the EMu CMS as the central repository for collections data across all collections departments, making it a core priority for the institution to maintain.

Bishop Museum substantially upgraded its internal network and security infrastructure in May 2020. Among the improvements are hardware firewalls and some of the most robust anti-virus/anti-hacking software and security services available. Bishop Museum has implemented new, more robust, and industry-standard security protocols for staff (e.g., minimum 14-character/high-security password requirements, including mandatory password changes at least quarterly) to safeguard its digital resources and infrastructure. In addition to these digital security enhancements, the Museum's server architecture is designed with high redundancy and reliability, based on six physical rack-mount servers maintained in a dedicated secured and climate-controlled server room. Existing database servers operate Windows Server 2016, with a 64-bit OS, Intel Xeon ES-2640 v3, 2.60GHz (8 core) processors, 85 GB RAM, SSD OS/Software drive, 5 TB local storage (scalable), 50 TB RAID local backup, and full external incremental backup. The existing dedicated EMu server is an HP DL380 Gen 9 Server consisting of two bays of eight 300GB SAS Hard Drives totaling sixteen drives running Ubuntu 20.04 LTS. There are two RAID cards, both set to RAID 6 with useable storage on each RAID just under 2TB.

All digital assets are stored and archived on Bishop Museum's Storage Area Network (SAN), a highly scalable SAN based on the Hewlett Packard HPE Modular Smart Array 2050 SAN system with controller and extra storage bay device configured with SSD cache for the active data. This system wwas expanded in August 2021 to a total of 300TB, and is scalable to PB capacity. The new infrastructure also includes multiple redundant data backup routines, including twice-daily full-data snapshots and various tiers of hardware redundancy and security. This system allows redundancy, minimizes risk from external network threats, and better handles spikes in network access requests. It provides a high level of security and real-time, mirror storage. Backups are maintained on a new Synology Enterprise Network-Attached Storage (NAS) consisting of 385TB of usable space with redundant power supplies located in a secure building across campus from the systems it protects for added disaster recovery protections. Additionally, digitized archival materials are backed up quarterly via a system of external hard drives that are shipped to Iron Mountain for secure storage on the US continent. It is the intention of Bishop Museum to store and maintain all collections data, multimedia, and associated systems in perpetuity.