
Digitization during the COVID-19 Pandemic

Collaborative Workshops to Update Global Digitization Standards

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1. Introduction

The Coronavirus (COVID-19) pandemic forced museums around the globe to temporarily close their doors, limiting public access to museum treasures.¹⁾ This reduced the level of interaction between museums and the general public, preventing people from quelling their existential fears about the pandemic through contact with cultural items.²⁾ Therefore, it was of vital importance to digitize cultural artefacts with little or no digital records, although the question arose of the best practices to do so.

2. SISJAC's Digitization Workshops

As a research institution that aims to develop understanding of Japanese cultural heritage, the Sainsbury Institute for the Study of Japanese Arts and Cultures (SISJAC) led an international initiative through two workshops to establish and circulate the procedures and best practices for digitizing 2D and 3D items. The workshops were organized through SISJAC's research project titled 'Using Digital Archives to Create a Research Network of Japanese Cultural Resources in the UK and Utilising Digital Resources for Japanese Studies', and were funded by the International Joint Digital Archiving Centre for Japanese Art and Culture (ARC-iJAC).

Each workshop began with a three-hour lecture where esteemed scholars, specializing in digital archiving, demonstrated the digitization process, followed by a question-and-answer session. The workshops were livestreamed through Zoom and later uploaded to the Internet to extend their reach as cutting-edge resources

that transcend spatial and temporal boundaries. Both livestreams had a vast outreach, attracting students, researchers, and archivists from both England and Japan.

After concluding the workshops, SISJAC staff and Master's students from the University of East Anglia (UEA) applied the procedures to Japanese cultural items, producing digital resources that contribute towards the preservation of Japanese culture in the UK.³⁾

The workshops also served as specialist training for future academics, as they provided Master's students from UEA with hands-on digitization experience. One student centered her Master's dissertation on the methods discussed in the workshops and their feasibility in a COVID-19 world. In this way, the workshops enhanced educational projects and broadened the academic prospects of postgraduate students.

3. Digitizing Two-dimensional (2D) Items

The 27th of May 2021 saw the launch of SISJAC's digitization workshop series, beginning with the digitization of 2D items. Professor Ryo Akama, a deputy-director of the Art Research Centre (ARC), Ritsumeikan University, led a three-hour technical lecture which invited an international exchange of ideas regarding the effective digitization of Japanese hanging scrolls through high resolution photography. Although the focus was on Japanese hanging scrolls, the discussed method can also be used to digitize most 2D items, including paintings and textiles, making it a highly generalizable and important procedure to learn for digital archiving.

As the technique at the forefront of 2D digitization in terms of both popularity and

quality, the photography procedure was described in fine detail, from setting up the equipment to ensuring that the camera settings were correct for capturing high-quality photographs. This included adjusting aperture to a value greater than f/8, setting the data to RAW, and using a 230-peaking highlight in order to prevent over-exposure. By combining heritage conservation with archival standards, the workshop provided its attendees with the expertise needed to efficiently preserve 2D cultural items from Japan.

Following the lecture, SISJAC staff and Master's students from UEA digitized 25 Japanese hanging scrolls from the Robert and Lisa Sainsbury collection at the Sainsbury Centre in Norwich under the guidance of scholars from the ARC. A full-sized photograph was taken of each hanging scroll, in addition to close-up photographs of the scroll's painting and of details within the painting. This culminated in upwards of three photographs per hanging scroll. All photographs were edited and sent to the Sainsbury Centre to be uploaded to their public website.

The workshop was important in spreading knowledge and producing digital records of Japanese cultural artefacts from the Sainsbury Centre. The majority of the 25 hanging scrolls that were digitized did not have photographic records prior to the workshop, and those that did were not of a high quality. Thus, in archiving cultural treasures by uploading them to the Sainsbury Centre's website, the workshop improved access to Japanese culture not only during the pandemic, but also in the greatly anticipated post-COVID-19 world.⁴⁾

4. Digitizing Three-dimensional (3D) Items

The second digitization workshop took place on the 29th of July 2021 and explored the digitization of 3D items through photogrammetry. The workshop was centered around two objects: the Usagi Kannon statue by Leiko Ikemura, which was digitized at its location in Yorkshire Sculpture Park before the workshop, and the Wooden Statue of Shōtoku Taishi (registration number 1944,1019.1), housed at the British Museum in London, which was digitized following the workshop.⁵⁾ Photographing two

items of immensely different proportions (the first standing at three meters tall and the second measuring thirty centimeters in height) deepened the understanding of the SISJAC team regarding the differences between 3D modelling large and small items, in addition to outdoor and indoor items. These findings were relayed during the workshop through a short presentation by one of the Master's students involved in the project. This enabled the workshop to educate others about potential pitfalls in the photogrammetry procedure before they embarked on their own photogrammetry projects.

The three-hour technical lecture was led by Akiko Nakamura, a researcher from the Nara National Research Institute for Cultural Properties. Nakamura provided a comprehensive description of the procedure for photogrammetry, separated into the photography phase, the editing phase, and the computer modelling phase.

Nakamura applied the lecture content to the Wooden Statue of Shōtoku Taishi to provide attendees with an example of how the procedure must be adapted to fit the specific requirements of an item. For example, the Statue has a partially reflective surface which can create noise in photographs and subsequently, decrease the quality of the 3D model. By using this item as an example of how lighting adjustments can reduce reflection and therefore noise, Nakamura assisted in optimizing the quality of the output from the session while illustrating that researchers who would approach photogrammetry with flexibility could obtain results of the highest quality.

The active question-and-answer session at the end of the workshop encouraged attendees to seek advice from experts in 3D modelling. Members of staff from UEA, the Cambridge Heritage Research Centre, and from Norwich Castle Museum partook in the discussion, creating scope for future collaboration between these international institutions. This saw the workshop establish a new network of partners to exchange perspectives and expertise with, regarding Japanese culture.

5. What Next?

SISJAC's collaborative digitization workshops marked the first step in a much larger

initiative to improve the standards for digitally archiving Japanese cultural items. Although situated in the context of the pandemic, the methods discussed in the workshops extend beyond a COVID-19 world, and their existence as online videos will allow them to serve as academic tools to educate others and disseminate knowledge about Japanese culture for years to come.

[Notes]

- 1) UNESCO. Museums facing COVID-19 challenges remain engaged with communities. 2020-04-04.
<https://en.unesco.org/news/museums-facing-covid-19-challenges-remain-engaged-communities> (accessed: 2021-12-17).
- 2) Andrew, Dana. Mami Kataoka, Director of the Mori Art Museum in Tokyo Tells How Museums will Change Post COVID-19. UK Committee of the International Council of Museums. 2020-08-24.
<https://uk.icom.museum/mami-kataoka-director-of-the-mori-art-museum-in-tokyo-tells-how-museums-will-change-post-covid-19/> (accessed: 2021-12-17).
- 3) The author (Naomi Hughes-White) was one of the Master's students from UEA who took part in both workshops.
- 4) The photographs of the hanging scrolls can be viewed on the Sainsbury Centre's website: <https://www.sainsburycentre.ac.uk/>.
- 5) Steve Colmer 3D modelled the Usagi Kannon sculpture using the photographs taken by the SISJAC team. It can be viewed here: <https://sketchfab.com/3d-models/leiko-ikemura-usagi-kannon-ii-31df9e00a63144f78bc99caa97b08d17>.