SOFTWARE PRESERVATION SERVICES IN CULTURAL HERITAGE ORGANIZATIONS:

Mapping the Landscape

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Abstract – Preserving software is a prerequisite for preserving and providing access to digital cultural heritage and research. The recent formation of the Software Preservation Network (SPN) has provided momentum for a better understanding of the landscape of software preservation activities. This poster discusses preliminary results from a study undertaken by SPN's Research Working Group. Our specific research questions are: What software preservation services are cultural heritage professionals currently providing? What are the gaps in services? What are the opportunities for future service provision? Our Service Provider Study focuses on software preservation activities happening in libraries, archives and museums. This study will inform a foundational agenda that SPN members and other cultural heritage professionals can use to conduct further research on sustainable software preservation services.

Keywords – software preservation, software, libraries, museums, archives

Conference Topics – Exploring New Horizons; The Cutting Edge: Technical Infrastructure and Implementation

I. INTRODUCTION

Preserving software is a prerequisite for preserving and providing access to digital cultural heritage and research, and software is increasingly considered a research product or artifact in itself. For decades, researchers and practitioners in information science, digital preservation, and allied fields have discussed the necessity of software preservation.

The recent formation of multiple groups focused on software preservation--including the Software Sustainability Institute, which focuses on research software [1], Software Heritage, which aims to preserve software as cultural artifacts [2], and the Software Preservation Network (SPN) [3], which is an alliance of cultural heritage professionals and others interested in software preservation--has provided momentum for better understanding the landscape of software preservation activities.

SPN's mission is to preserve software through community engagement, infrastructure support, and knowledge generation. Our mission as the

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Research working group is to facilitate research projects that bring individuals and organizations with diverse perspectives and interests together to document and analyze the landscape of software preservation and access.

This year we, the members of the SPN Research Working Group, launched a study of software preservation service providers in libraries, archives, museums, and other organizations who work to preserve software, in order to identify (1) the services that are currently being provided, (2) gaps in services, and (3) opportunities for future service provision. Ideally, it will serve as the first in a longitudinal series of studies that will track the landscape of software preservation over time.

II. Service provider

In 2015, Meyerson and Vowell conducted a survey [4] to better understand cultural heritage practices surrounding long-term preservation and access to digital primary resources stored in proprietary file formats. While this study produced information on who is collecting software, it didn't solicit detailed data about what they are collecting and how they are collecting it. Furthermore, the landscape of software preservation activities has evolved since this initial research.

The Research Working Group's Service Provider Study seeks to dig into details about how software preservation work is currently being done. The study includes a survey and set of follow-up interviews aimed at documenting how cultural heritage organizations are approaching software preservation services. Our specific research questions are: What software preservation services are cultural heritage professionals currently providing? What are the gaps in services? What are the opportunities for future service provision?

The survey questions were designed to gather data to address each of these research questions. Our target population are individuals working in cultural heritage organizations such as libraries, archives, and museums. We received Institutional Review Board approval for the study and adhered to GDPR protocols for all European responses. The survey includes multiple choice and free-response

questions with the goal of obtaining a high-level understanding of the types of software preservation services participants are providing, as well as services participants plan or hope to provide in the future. The interview protocol includes a set of questions that address the same topics covered in the survey but enable the participant to answer in more detail.

III. Preliminary Insights

We launched the survey in January of 2019, and as of June 2019, we are in the early stages of analysis and have conducted most interviews. Our survey received 124 responses from a variety of institutions, including academic research universities (57.3%), government entities (19.4%), and a variety of "other" organizations including public libraries, entertainment companies, museums, and commercial entities (12.1%). Fifty-five respondents (44%) affirmed that they were currently providing software preservation services. To date, we have also completed fourteen interviews with survey respondents who indicated their willingness to do so.

Survey responses reflect perspectives from a wide variety of job roles including: librarian (24.2%), archivist (24.2%), information technologist (13.7%), curator (8.1%), administrator (8.1%), conservator (4.0%), and others (17.7%), including digital preservationist, software preservationist, professor, program manager, digital asset management specialist, archaeologist, scientist, data specialist, data preservationist, photographer, and collections manager. The top two motivations cited by respondents who preserve software are to provide access to other collections (58%) and because the software itself is a part of the cultural record (51%), although preserving software so it can be reused was also a significant concern (47%).

While a range of institutions and professionals are considering or providing services related to collecting, describing, preserving, and providing access to software, our study suggests that only a small minority are engaging in these activities on a frequent basis. Of respondents who self identified as currently providing services, only small numbers chose the word "frequently" to characterize how often they:

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- provide consultations about software preservation (8.1%)
- actually preserve software (10.5%)
- create metadata for preserved software (7.3%)
- provide access to software (6.5%).

Several professional development and capacity gaps were identified in both the survey responses and interview conversations. Many respondents felt a need for knowledge about the history of computing to do their work, wanted access to best practices for the field, and indicated they lacked sufficient inventories to know what software is included in their collections. Those with more established software preservation programs expressed an interest in developing capacity for providing emulation environments for researchers. Given the variety of needs reflected in the preliminary results, the study suggests that community organizations like SPN can play an important role in addressing gaps for both new and experienced service providers. This study will help inform a foundational agenda that SPN members and other cultural heritage professionals can use to conduct further research as well as to develop, refine, and promulgate good practices for sustainable software preservation.

References

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