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Accessing Software: Emulation in Information Institutions

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KNOWLEDGE INFRASTRUCTURES AND INFORMATION institutions such as libraries, archives, and museums are going through immense transformation as they begin to collect, preserve, and curate software and software-dependent information for access. This transformation is driven in part by the ubiquity of software in knowledge work and modern organizations, but accessing obsolete and legacy software presents challenges ranging from technical resources, to digital rights law, to the high costs and professional expertise needed from resource-constrained organizations to provide access services.[1] To meet their access goals, such institutions must develop new approaches to preserving software and implement workflows for preserving these software-dependent resources as they meet their institutional mandates to collect, preserve, and provide access to reliable information resources.

In this article I present findings from research that examines preservationists implementing software emulation workflows in three information institutions that collect and provide access to software. This research involved interviews, online and in-person participant observation, and fieldwork over twenty months in 2018–20 in the United States. My participant observation was supplemented by twenty-five interviews with information workers at a research library, a university technology lab and archive of vintage computers, and a museum of technology. Based on these findings, this article presents a theory of emulation based on accessing software in information institutions, building a vocabulary for representing access to software, and identifying the issues preservationists face in representing the temporalities and durability of both emulated and emulating software.

Since the 1960s, software has been instrumental in science and high technology domains. It is an object of study to social studies of science because of its development,

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ABSTRACT:
This article presents a study of preservationists implementing emulation workflows in three information institutions that collect and provide access to software: an academic research library, a university technology lab and archive, and a museum of technology. Drawing on participant observation and interviews (*N* = 25), I present a theory of emulation for preservation based on visions of accessing software, building a vocabulary to represent the temporality and durability of software as both an object and experience. The findings reveal issues preservationists now face in representing multiple temporalities when emulating software and software-dependent resources. These findings contribute to social studies of information institutions where emulation workflows are being planned and implemented as part of providing access to evidence and knowledge. The article also contributes to the study of the invisible technicians and information professionals who maintain computational infrastructure for long-term digital preservation.

KEYWORDS:
access, digital preservation, emulation, software, maintenance