

9. DATA MANAGEMENT PLAN

9.1 Gallaudet University

Gallaudet Technology Service, as the home institution, will continue to provide their team's expertise in hosting needs, harvesting digital content in an institutional repository, and facilitating the transition from CraigInteractive (current dsdj.gallaudet.edu) to Michigan Publishing (MP). The data from past issues will be stored in three different secure locations: the GTS server, the DSDJ server, and two dedicated external hard drives.

9.2 Michigan Publishing

Michigan Publishing is responsible for hosting, disseminating and preserving the Deaf Studies Digital Journal. All products and deliverables created during the course of this project will be made freely and publicly available.

Expected Data

The data produced by this proposed project will include the hosted website, source code for accessibility features, video files, audio files, text files, and images.

Data Formats and Dissemination

Michigan Publishing and its parent, the University of Michigan Library, will from the outset create all files related to the journal in open and migratable formats, including:

1. The web version of the journal will be rendered in HTML 5. This format is based on an open W3C standard and will be trivial to migrate to new formats in the future.
2. The code base for Fulcrum as well as additional source code developed through the proposed project will be documented and freely available for download, reuse, and modification in a public repository at GitHub, a cloud repository service widely used in software development.
<https://github.com/mlibrary/fulcrum>
3. Video: All videos created for this project will be encoded in MPEG-4/H.264 format, the most commonly used video compression standard on the web. The ubiquity of MPEG-4 video means that commercially-available tools exist, and will continue to exist, for transcoding it to new formats as technology changes.
4. Audio: If audio files are created for this project, they will be encoded using a commonly used format such as MPEG-3, so that they may easily be transcoded to new formats in the future.
5. Text: ePub 3.0, a related W3C standard to HTML 5, will be the file format into which each transcript is encoded, and it will be migrated to future formats as needed.
6. All images will be encoded in JPEG, TIFF, or PNG formats for easy recompression into new formats for future needs.

Data Storage and Preservation of Access

The journal will be preserved as part of the University of Michigan Library's digital collections. Michigan Publishing is committed to preserving content indefinitely, and will continue to migrate content even after a journal has ceased to publish.

Server Infrastructure

The Fulcrum platform, which will host the Journal, is based on the open source Hydra/Fedora technology stack, which is actively developed by more than 30 libraries across the world. This codebase, in this instance, will be run from University of Michigan's enterprise-level UNIX server infrastructure, and all data will be backed up nightly and replicated offsite. Access to this server environment is

controlled by the University of Michigan's Kerberos authentication software with two-factor authentication mandatory.

Fulcrum is hosted on two complete self-contained environments in two different data centers. Our primary data center is a tier 2+ facility off campus with 2+1 redundant generator power. Our secondary data center is a tier 1+ dedicated server room in the library and uses the more reliable campus power generation rather than commercial utility. Our load-balancing is active-active, meaning both sites are in operation, and if one goes down, the other keeps serving content. The sites are kept in sync with a mixture of formal software release processes and automated synchronization, aiming for 99.9% uptime.