

## **PeDALS ~ Persistent Digital Archives and Library System**

Technological obsolescence and the instability of digital media pose significant challenges to the long-term preservation of electronic records and publications. As a result, the Library and Archives has not yet approved any digital media for archival records – records that must be kept for the life of the State. State agencies are pressing the Library and Archives to allow the use of digital formats for archival records, and the Library and Archives very much wants to find a viable solution.

The Library and Archives is developing the Persistent Digital Archives and Library System (PeDALS), a first step towards preservation of records in electronic format. The project is designed as a pilot and proof of concept. Building this system will allow the Library and Archives to test and adjust the design for a production system. The pilot system will also provide the Library and Archives with baseline metrics to help determine how well the system will scale. Finally, the pilot will allow the Library and Archives to evaluate the technical and economic implications of different preservation techniques (preemptive migration and emulation).

Although designed as a pilot and proof of concept, the Library and Archives has great confidence in the project and expects to use the pilot system as the foundation for a production system. Preliminary reviews of the model by GITA, a number of state agencies' CIOs, the Georgia State Archives, and others give us reason to be very optimistic.

PeDALS design follows the Open Archival Information System, a high-level reference model that describes the components and processes necessary for digital archives, including six distinct functional areas: ingest, archival storage, data management, administration, preservation planning, and access.<sup>1</sup> PeDALS is built primarily with open source software.

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<sup>1</sup> Consultative Committee for Space Data Systems. See <http://public.ccsds.org/publications/archive/650x0b1.pdf>.

The modular design allows for those components using commercial, off-the-shelf software to be easily replaced.

PeDALS relies on two core technologies. First, the system takes advantage of middleware to automate the workflow as records and publications go through the processes of acquisition, processing, storage, and access to be automated. Second, the system uses a redundant, geographically distributed array of servers controlled by LOCKSS<sup>2</sup> to provide robust, reliable storage.

One of the key functions of the PeDALS system is the ability to demonstrate the authenticity and integrity of records and publications. The system is design to protect the documents from accidental or malicious destruction.

PeDALS offers a number of benefits. Citizens will have vastly increased access to government information. They will be able to view the records and documents 24/7, not just during office hours. They will be able to read the information in their homes and offices around the state – around the world – rather than having to come to the Library and Archives in Phoenix. The information is in a format that makes it easier to find; digital technology makes it easier to index and search documents, and does so at a fraction of the cost.

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<sup>2</sup> Lots of Copies Keeps Stuff Safe. See <http://www.lockss.org/>.