



University of California, Riverside

The IMLS-funded MAP pilot, organized by the California Digital Library and the Association of Research Libraries, explored how machine-actionable data management plans (maDMPs) could streamline infrastructure, coordination, automation, and research data stewardship.

DMP Notification for Efficiency and Coordination



INTRODUCTION

UC Riverside explored AI-driven automation for campus-based computational resource deployment, relying on the maDMP as the central reference for resource needs. Additionally, they tested workflows to simplify how data moved between repositories by enabling cloud storage re-provisioning and managing high-performance computing (HPC) clusters.

Case Study



NOTIFICATION SYSTEM

UCR, like many institutions, faces resource limitations that make automation an important strategy for scaling research support services. The team recognized that human, financial, and technical resources were essential for the successful adoption of machine-actionable DMP's and the infrastructure to efficiently harness their potential. To build capacity, they enhanced their automation capabilities, developed a maturity model to assess readiness, and began embedding the maDMP into research support systems. Through this pilot, they aimed to demonstrate the value of automated DMP support, both to strengthen future grant proposals and to make the case for longer-term institutional investment.

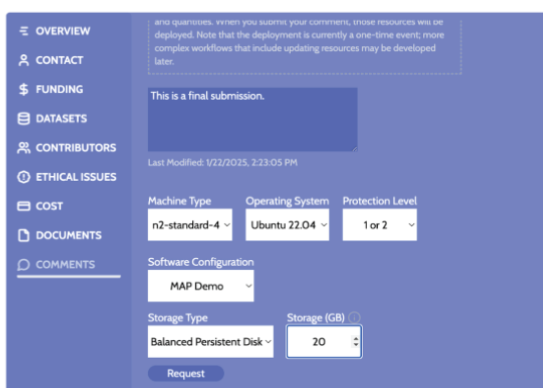


EMBEDDED DMP

UCR's approach centers on embedding maDMPs into the research lifecycle as a central, trusted "source of truth" to coordinate research support notifications for campus services and support.

To do this the UCR team developed a workflow and pipeline that extracts information from each DMP, dynamically managing details about which campus unit is involved in delivering services, infrastructure, or oversight. Initially, only the security team was notified if a researcher's DMP indicated the generation or use of sensitive data as part of their project. However, as the system evolved, it became clear that a security review all DMPs would help UCR

MAP Pilot Project



MAP Pilot Project

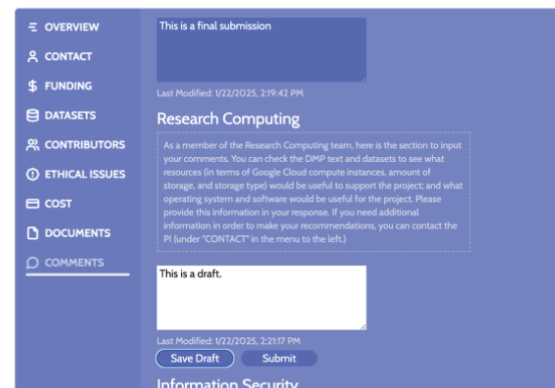


Figure 1: Screenshots of the UCR App's interface.

Case Study

more effectively identify and respond to potential security issues, so the security team was added to the notification flow for every plan. This system allows comments, consultations, and recommendations to be shared among team members.

Managing data storage and computational infrastructure is another major focus for UCR. By enabling cloud storage reprovisioning, the team simplified the process of moving data between repositories. This flexibility is crucial for research teams that share resources, such as high-performance computing (HPC) clusters. By enabling cloud storage reprovisioning, the team streamlined the movement of data between repositories, which is essential for research teams that share HPC clusters.

The pilot faced challenges in deploying computational resources due to two main reasons:

1. Sample DMPs lacked specificity, providing only basic information to meet federal requirements.
2. Changes in research design from planning to active stages often shifted computational needs.

Despite these challenges, the pilot demonstrated how UCR is bridging gaps, such as limited access to high-end technology and staff capacity, through maDMPs, aligning with the university's research infrastructure goals.



FUTURE DIRECTIONS

UCR is working on a prototype for a campus level research computing portal, following discussions with the head of campus research computing. The initial focus is on building foundational features, such as access control, which would allow faculty to manage the memberships of their research groups. This work aligns with the security and permissions components of DMPs.

As development continues, UCR plans to incorporate DMPs into the portal as reference information and integrate them into workflows where they add value.





STRATEGIC RECOMMENDATIONS FOR INSTITUTIONS

Start with a Clear Use Case and a Willing Partner

- Identify a specific, high-impact workflow where a machine-actionable DMP can streamline coordination—such as alerting the security team when sensitive data is involved or notifying storage services when large datasets are expected.
- Partner with one engaged unit (e.g., research IT, compliance, or library data services) to pilot the integration.
- Keep the scope narrow at first, success builds momentum.

Align maDMP Fields with Local Services and Workflows

- Customize your DMP template so it collects information that directly maps to campus services (e.g., HPC access, storage provisioning, regulated data handling).

- Design for actionability and use structured fields that can trigger automated notifications or initiate review processes.
- Make the DMP a useful planning tool, not just a compliance checkbox.

Build a Cross-Functional Implementation Team

- Form a small group with representatives from the library, IT/research computing, research administration, and compliance.
- This team can help identify integration points, coordinate communication, and shape policy or workflow alignment as the project scales.
- Early collaboration ensures the maDMP adds value across the research lifecycle, not just at the proposal stage.



TEAM

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