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Building Research Data Services at Mount Holyoke College

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Comments

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Building Research Data Services at Mount Holyoke College

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Introduction

Mount Holyoke College ranks high among liberal arts colleges in faculty research activities and has initiated a new program in Data Science. In this context, and given the recent growth in the use of very large datasets in research, more coherent and comprehensive campus support for the management and storage of faculty research data at Mount Holyoke has become essential.

Laying Foundations

In 2015-2016, a working group of MHC librarians and technologists from the Research and Instructional Support Department began exploring the need for data services at MHC by:

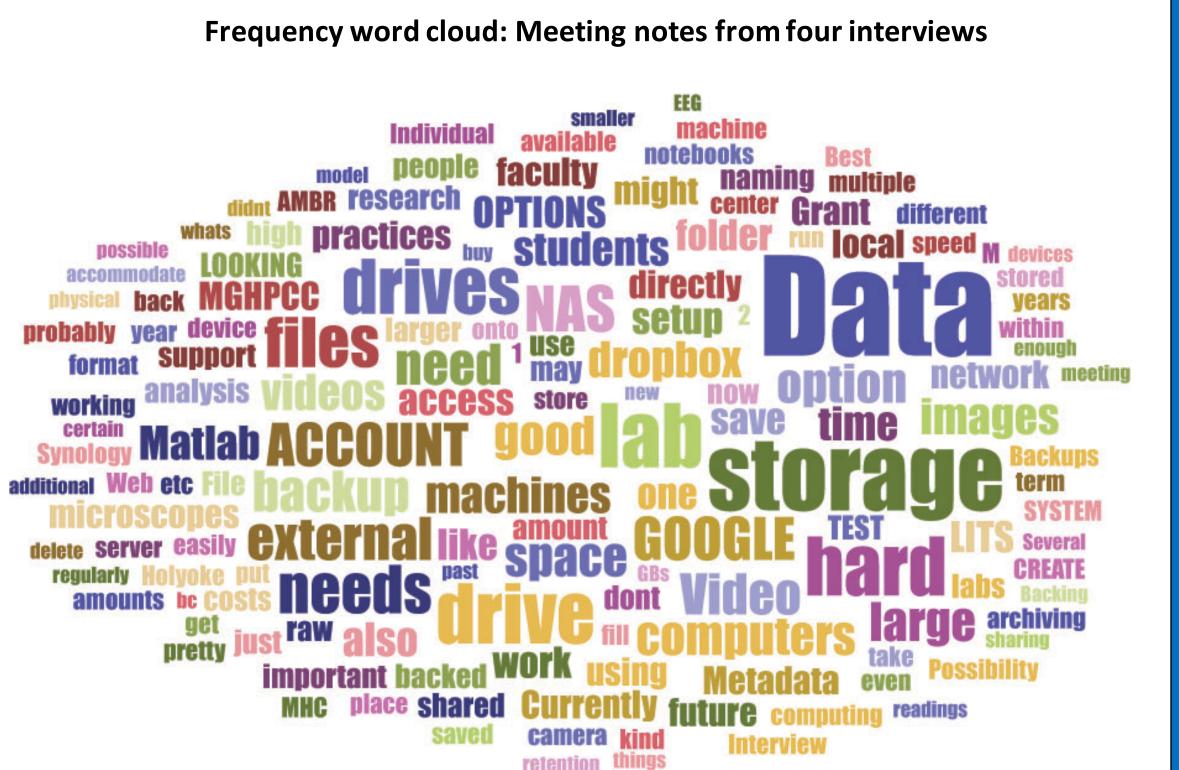
- Studying data services models at other institutions
- Administering a survey to learn about faculty research data practices and needs
- Developing a proposal for data services at MHC

In the spring of 2016, a cross-functional team formed to meet faculty data storage and backup needs. Ten members were drawn from multiple library and IT departments. Building upon the survey and individual faculty interviews, this team developed *use cases* and *personas* to begin:

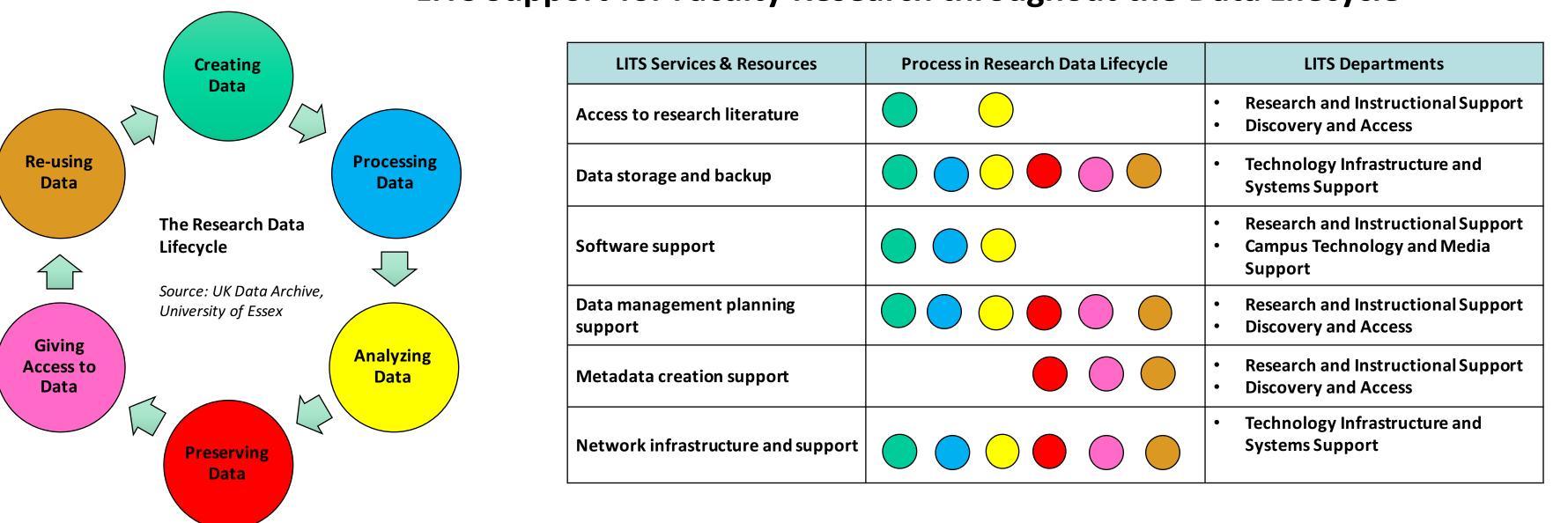
- Guiding the development of policies and procedures
- •Planning infrastructure provisioning
- Building support models around research data needs

Additionally, metadata librarians, research and instruction librarians, and digital assets managers planned support models for metadata creation and research data management planning.

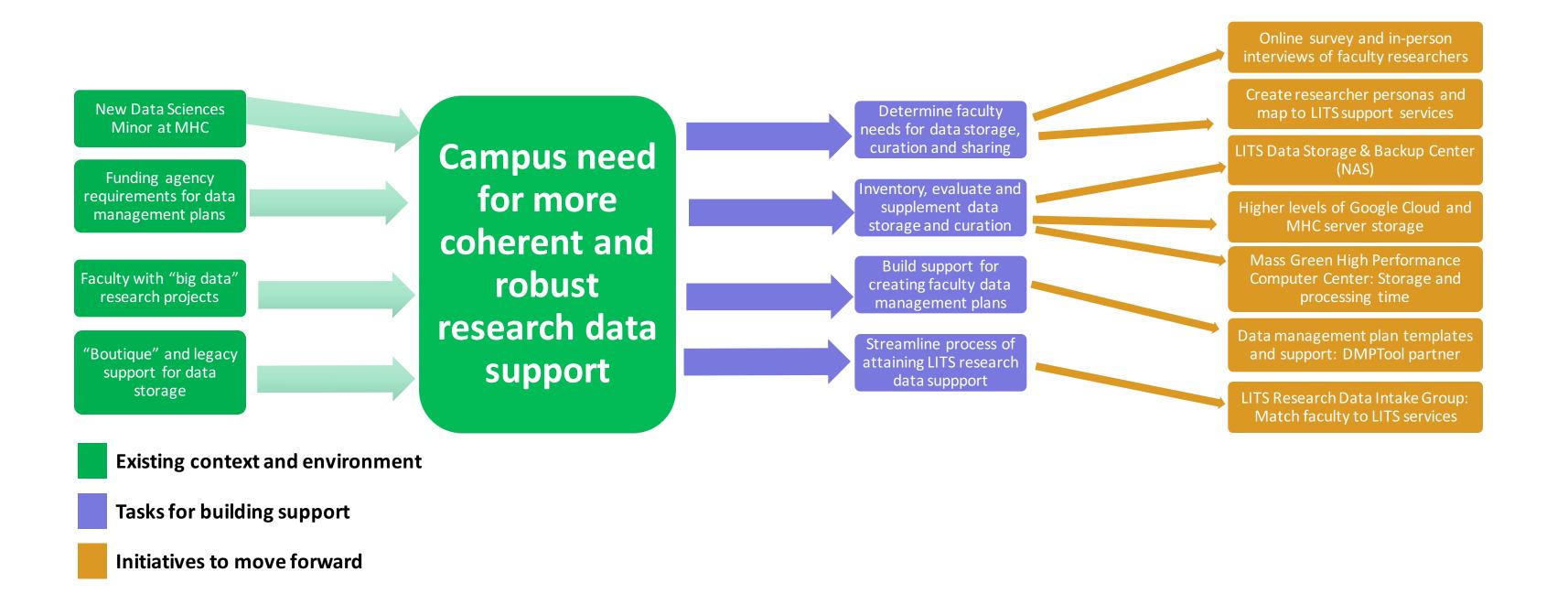
Individual Interviews with Faculty Researchers



LITS Support for Faculty Research throughout the Data Lifecycle



Moving towards better research data support for Mount Holyoke faculty...



Data Needs Intake Interview

LITS Research Data Intake Group

Begin with open ended questions Ask researcher to describe: Their role as a researcher Their broad area of study Where their research work is situated in this area of study What they need help with in general How do they create and store data What are their "pain points"

Data description

Ask researcher to describe:

• What kind of data are they generating (formats)

• The instruments used to create data

• The amount of data produced over time

• The size of stock or archive of data

• The data organization (hierarchical folders, metadata or tags, etc)

• Any data dictionary for metadata fields, controlled vocabulary, lab notebooks

Retention requirements

Ask researcher to describe:

The amount of data that needs to be kept indefinitely
The amount of data that is discarded after processing
Their decision making about what to keep and what to discard

Access needs for research process Ask researcher to describe: • Who needs to be able to access the data? Students, lab managers, faculty, off-campus collaborators • How complicated do access permissions need to be (hierachical or flat – i.e., do access and editing permissions need to vary by group? • How often will collaborators change

Confidentiality needs

Ask researcher to describe:

Any sensitive data that needs to be encrypted or resticted

Any data that would not be suitable to share via a cloud service like Google Drive or Dropbox

Any data that needs to be kept off-network or physically inaccessible (locked down)

Grant funding requirements
 Ask researcher to describe:

 Any data that needs to be published to meet research grant requirements
 Any data that needs to be public and discoverable on the internet to meet grant requirements
 Any open repository on the web on which the data is required to be made accessible
 How long the granting agency requires that data remain public
 Components and format of any required data management plan

We wish to acknowledge the work of members of the LITS Data Storage Cross Functional Team, especially Shaun Trujillo, who created this set of intake interview questions.

Moving Forward

Gathering information from the faculty survey and interviews, along with studying data services models elsewhere, gave LITS a better understanding of our users' needs. These insights guided us in developing matrices of needs, services, and support responsibilities that allow LITS to better meet support requirements and to plan future infrastructure provisioning.

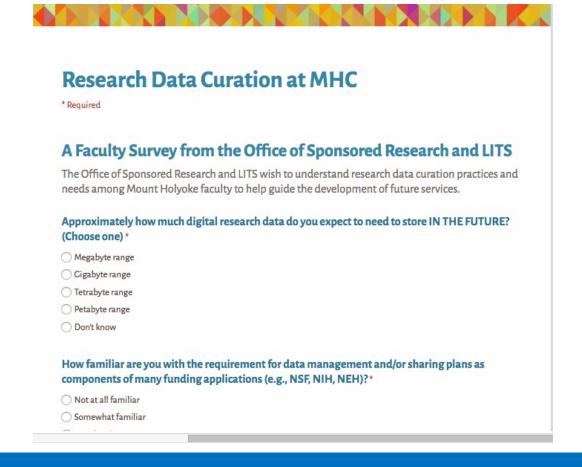
LITS has revised and created processes to:

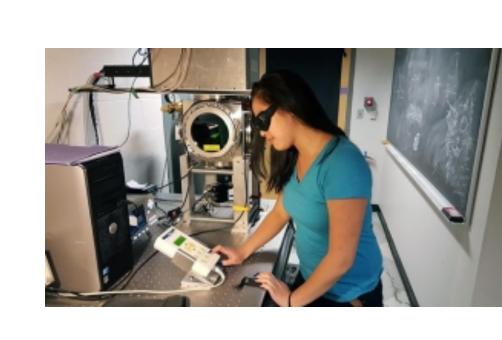
- Provide an intake process for individual users seeking data services, including forming a LITS Research Data Needs Intake team
- Consult with faculty on data storage and backup systems
- Support faculty in crafting research data management plans (DMPs) and creating metadata for archiving newly created data sets
- Become a DMPTool Partner to support faculty with customized DMP templates
- Arrange access for Mount Holyoke researchers to the Massachusetts Green High Performance Computing Center (MGHPCC)
- Create an MHC Data Center to provide data storage and backup on LITS maintained servers.

Conclusion

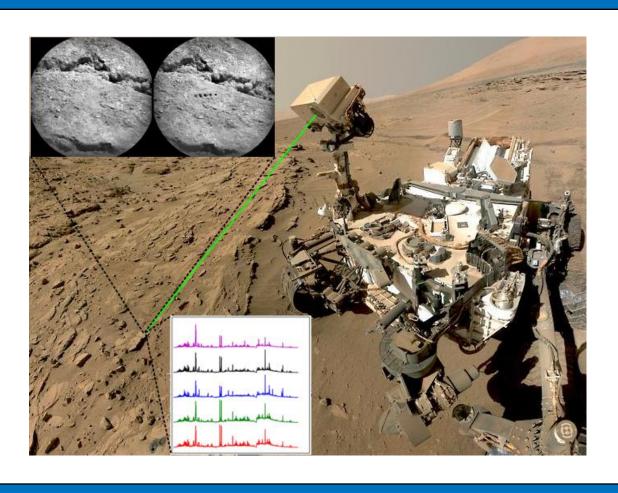
The recent work of departments across LITS to evaluate research data needs at MHC allows us to plot a path to a more coherent and robust set of services to support faculty researchers.

Faculty Survey: Research Data Practices and Needs











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