

Acknowledgements

- Kelly, E. K. - Florida State University (FSU) Graduate Assistant
- Nesbitt, T. A. - FSU Paul A.M. Dirac Science Library Assistant
- Weekley, J. - FSU Paul A.M. Dirac Science Library Associate
- Towels, G. - FSU Libraries DLC Digitization Specialist
- Patterson, W. - FSU Libraries DLC Library Associate

Introduction

- Demonstrates partnerships between faculty, digital librarian, cataloger, and external digital preservation partners involved in open access (OA) institutional repository (IR) digital collection development and digital preservation of at Florida State University
- Proposes mapping current digital collections and digital preservation workflows to open archival information system (OAIS) reference model as part of a self-assessment and gap analysis to improve current workflows and move towards the adoption of open standards and best practices
- Explores open access digital collections building and digital preservation policy development by mapping to OAIS reference model
- Map Boyer's Model of Scholarship to current digital collections development f & digital curation for faculty contribution participation engagement
- References The DCC Curation Lifecycle Model and data curation profile as supplemental resources in the development of an institution's digital preservation management policy strategy for future inclusion into current digital collection development policy

Research questions

1. Is senior library management willing to support, allocate the resources, and promote a standards-aware culture in the development of a digital preservation management policy?
2. Can OA IR and digital preservation information promotion of a Nobel Prize winner faculty influence faculty contribution participation from various research disciplines in digital collection and preservation development?

Scope and design

Three small research disciplines were used as a pilot for digital collection building and digital preservation.

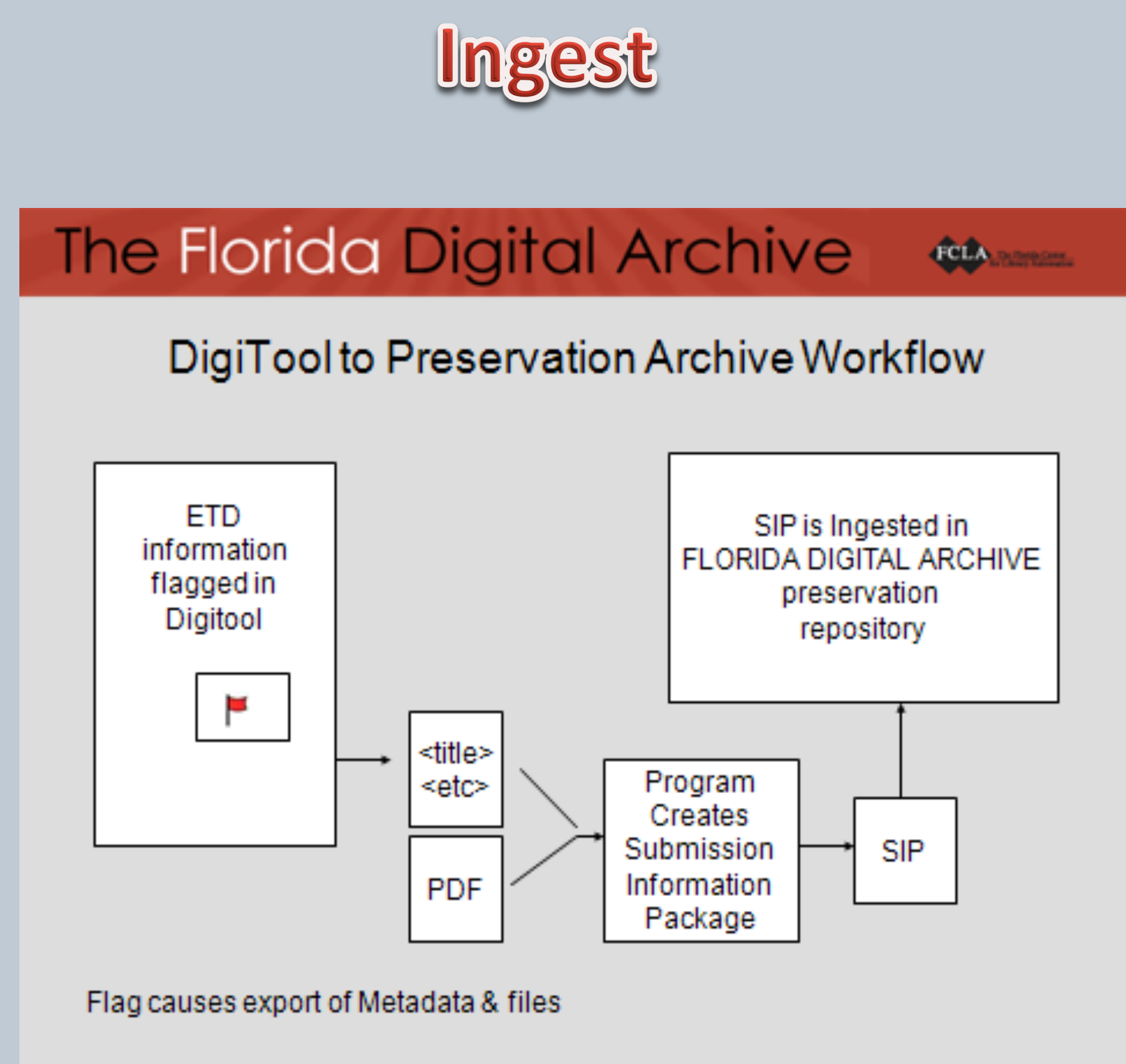
- 449 Select Paul A.M. Dirac primary source objects (digitized)
- 14 images of biological silica - Diatoms (born digital)
- 21 oceanography discipline technical reports (digitized)
- 1 faculty library exhibition
- Several conference poster presentation to promote faculty research, formal & informal interviews with faculty, & email correspondences
- Pilot project preservation of Diatoms (FDA/ & MetaArchive)
- Discussions with senior library management
- Recommendation for FSU Libraries to join Florida Digital Archive

Findings

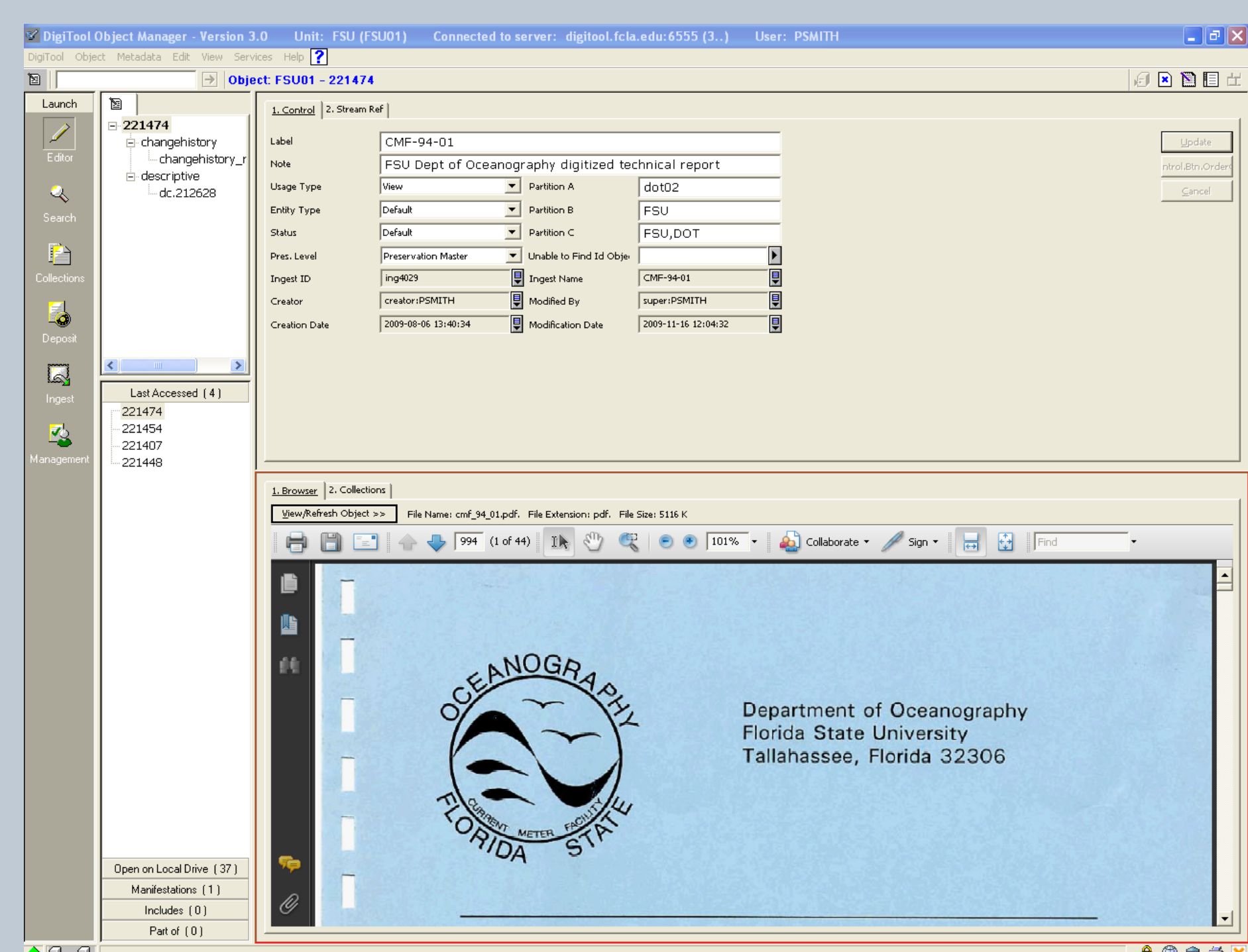
- OAIS, OA IR, digital preservation, & digital concepts education
- Digital curation of scholarly output & data set are needed
- "Data curation + digital preservation = digital curation" - Nance
- Data curation research discipline profiles should be developed for access and preservation of scientific scholarly output & data sets

Research limitations and implications

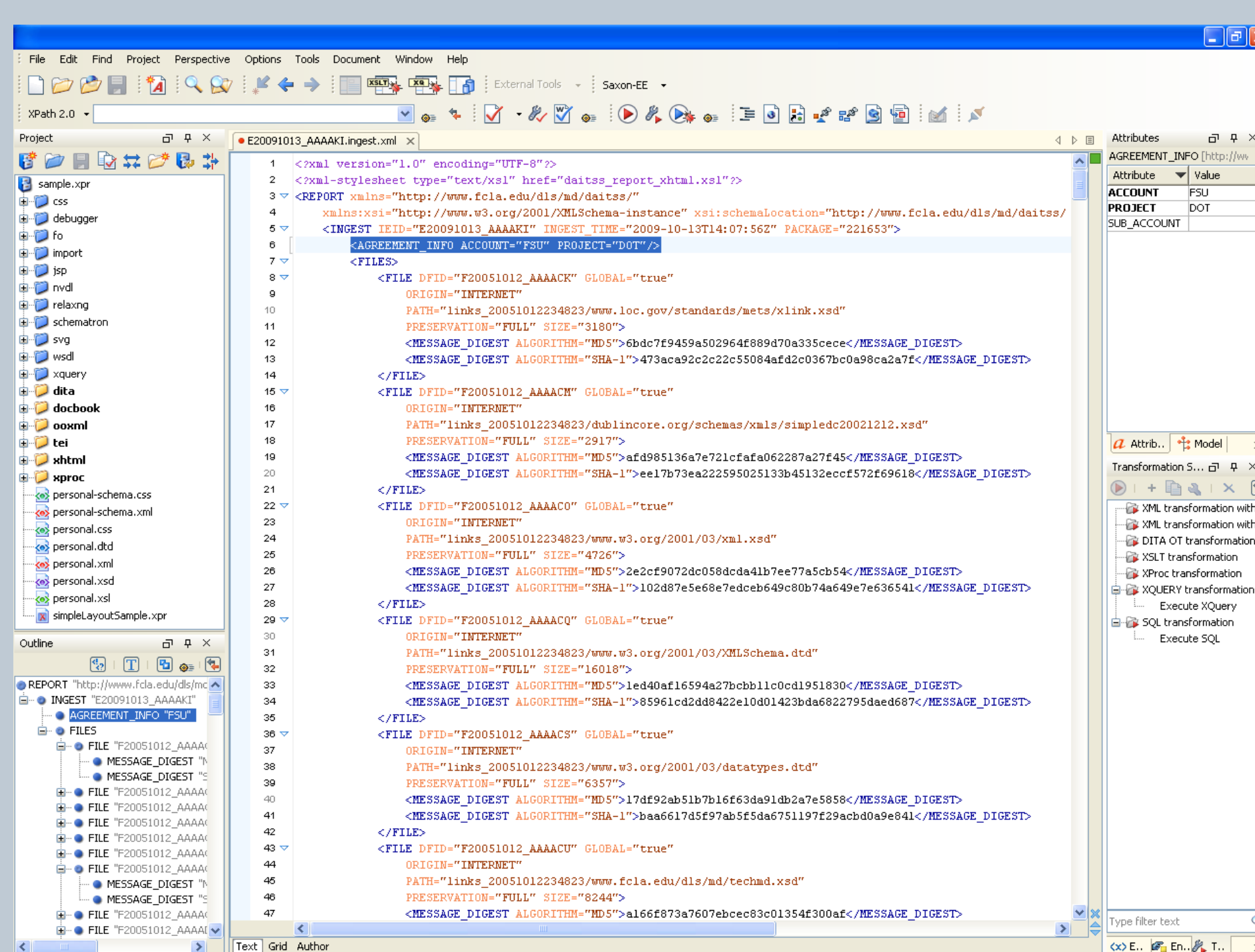
- Sample size not significant in breadth and depth
- Lack general application
- Expand scope, content, and research disciplines
- OAIS reference model, DCC Curation Lifecycle Model, & Boyer's Model of Scholarship used as a framework development



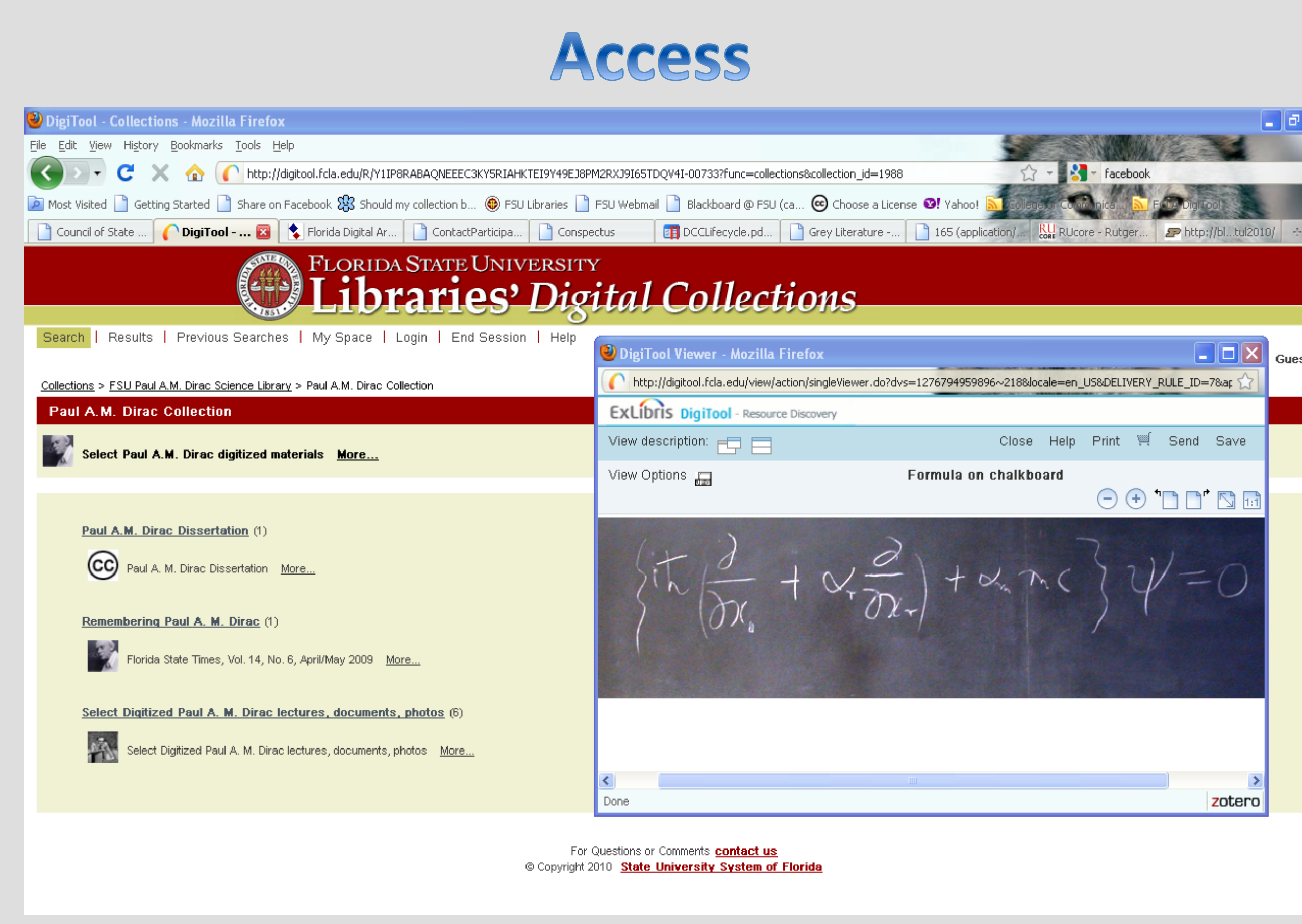
Workflow:
DigiTool-to-Florida Digital Archive (FDA) workflow for flagging access objects for archive storage.



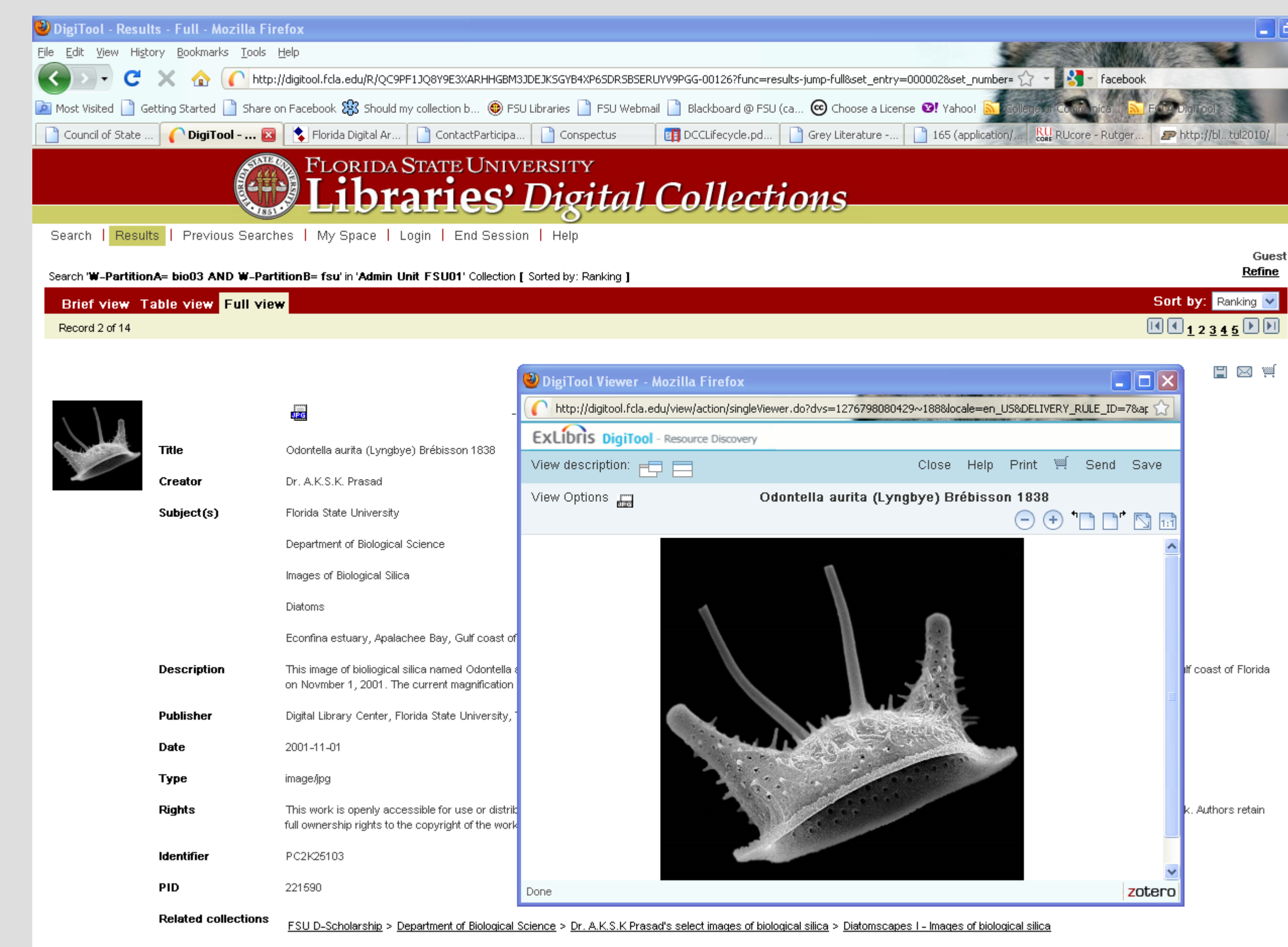
Example:
Oceanography technical report with PID 221474 flagged for archive with Usage Type = View (access) Partition A = dot02 (collection code); Partition B = FSU (institution code); Partition C = FSU, DOT (institution code and collection code).



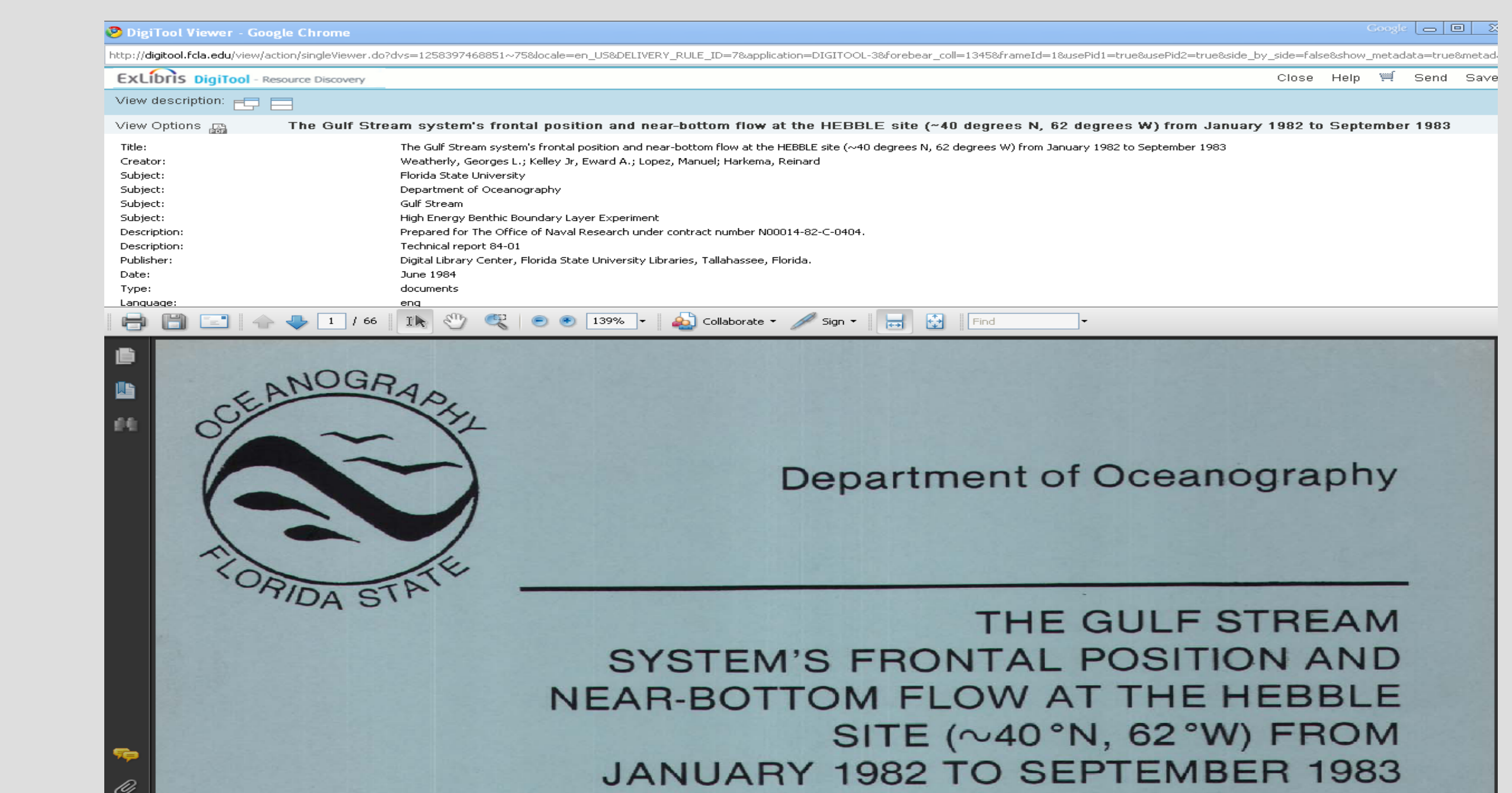
Ingest report:
Dark Archive in the Sunshine State (DAITSS) ingest report E20091013_AAAAKL.ingest.xml with AIP information generated and emailed to producer (institution - FSU).



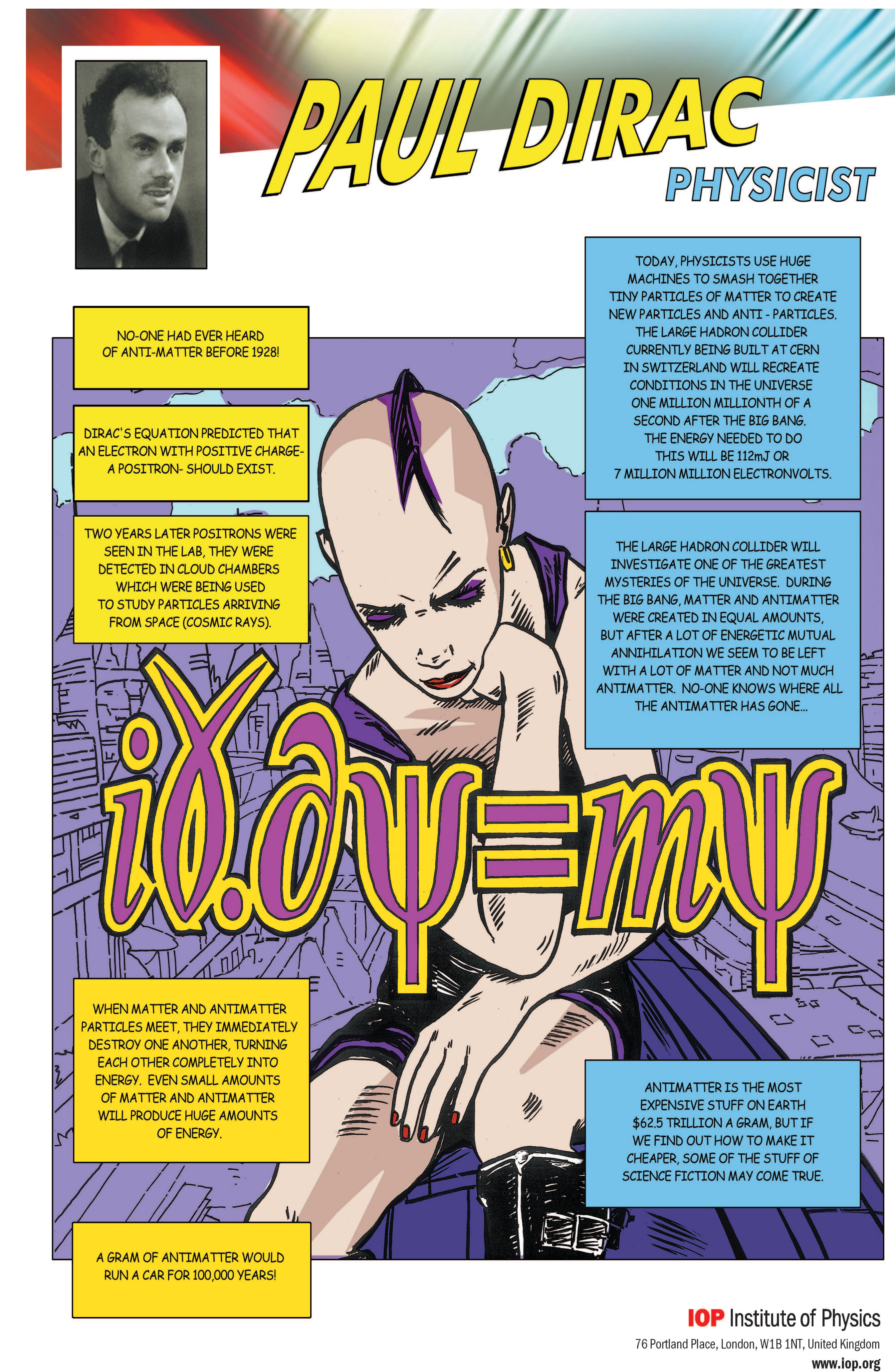
Example: 1
Select digitized Dirac material (i.e. 1926 hand-written dissertation, "relativistic quantum mechanical" (antimatter) formula, select lectures (audio/written), content accessible online via online public access catalog (OPAC), OA IR, OCLC WorldCat, and will be preserved in Florida Digital Archive (FDA)/MetaArchive.



Example: 2
Born digital images of select biological silica are accessible online via OPAC, OA IR, OCLC WorldCat, and are being preserved in FDA & MetaArchive.



Example: 3
Digitized technical reports are all accessible online via OPAC, OA IR, OCLC WorldCat, and are being preserved in FDA.



PAUL DIRAC PHYSICIST

NO-ONE HAD EVER HEARD OF ANTI-MATTER BEFORE 1928!

DIRAC'S EQUATION PREDICTED THAT AN ELECTRON WITH POSITIVE CHARGE - A POSITRON - SHOULD EXIST.

TWO YEARS LATER POSITRONS WERE SEEN IN THE LAB, THEY WERE DETECTED IN CLOUD CHAMBERS WHICH WERE BEING USED TO STUDY PARTICLES ARRIVING FROM SPACE (COSMIC RAYS).

TODAY, PHYSICISTS USE HUGE MACHINES TO SMASH TOGETHER TINY PARTICLES OF MATTER TO CREATE NEW PARTICLES AND ANTI- PARTICLES. THE LARGE HADRON COLLIDER CURRENTLY BEING BUILT AT CERN IN SWITZERLAND WILL RECREATE CONDITIONS IN THE UNIVERSE ONE MILLION MILLIONTH OF A SECOND AFTER THE BIG BANG. THE ENERGY NEEDED TO DO THIS WILL BE 1200 OR 7 MILLION MILLION ELECTRON-VOLTS.

THE LARGE HADRON COLLIDER WILL INVESTIGATE ONE OF THE GREATEST MYSTERIES OF THE UNIVERSE. DURING THE BIG BANG, MATTER AND ANTIMATTER WERE CREATED IN EQUAL AMOUNTS BUT AFTER A LOT OF ENERGETIC MUTUAL ANNIHILATION WE SEEM TO BE LEFT WITH A LOT OF MATTER AND NOT MUCH ANTIMATTER. NO-ONE KNOWS WHERE ALL THE ANTIMATTER HAS GONE...

WHEN MATTER AND ANTIMATTER PARTICLES MEET, THEY IMMEDIATELY DESTROY ONE ANOTHER, TURNING EACH OTHER COMPLETELY INTO ENERGY. EVEN SMALL AMOUNTS OF MATTER AND ANTIMATTER WILL PRODUCE HUGE AMOUNTS OF ENERGY.

A GRAM OF ANTIMATTER WOULD RUN A CAR FOR 100,000 YEARS!

ANTIMATTER IS THE MOST EXPENSIVE STUFF ON EARTH \$625 TRILLION A GRAM, BUT IF WE FIND OUT HOW TO MAKE IT CHEAPER, SOME OF THE STUFF OF SCIENCE FICTION MAY COME TRUE.

iħ ∂ψ = mψ

IOP Institute of Physics
76 Portland Place, London, W1B 1NF, United Kingdom
www.iop.org

Goals

1. Development of Florida State University Libraries' Paul A.M. Dirac Collection to be used as a high-profile digital collection in the digital collection development and digital preservation management policy for education and outreach strategies to influence faculty from various research disciplines to contribute content and scholarly expertise.
2. Develop FSU Libraries digital preservation policy.

Conclusions

- Senior library management supports OAIS OA IR research and digital preservation policy development with recent ICPSR Digital Preservation Management Workshop and future METS Workshop training
- Collection Development Digital Initiatives Policy spearheaded by senior library management lacks a preservation policy
- FSU Libraries is developing a digital preservation management policy starting with OpenDOAR compliance while working towards Reference Model for an Open Archival Information System (OAIS) CCSDS 650.0-P-1.1 (Pink Book) Issue 1.1 August 2009 and Audit and Certification of Trustworthy Digital Repositories CCSDS 652.0-R-1 (Red Book) Issue 1 October 2009, & constructing data curation profiles
- Explore University of Florida's (UF) METS Viewer/Editor tool for creation of METS, MARC, MODS, DC, and other exported xml files.
- Begin to develop research discipline data curation profiles