Data Capsule Appliance for Research Analysis of Restricted and Sensitive Data in Academic Libraries

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Our Project

*Data Capsule Appliance For Research Analysis Of Restricted And Sensitive Data In Academic Libraries*

**Goals:**
1. Understand library needs and practices in providing computational access to restricted collections
2. Extend an existing service to enable access to restricted data in libraries
3. Identify gaps in skills needed to enable secure data analytics

**Activities:**
- Design-oriented partner engagement
- Software architecture and evaluation
Project Deliverables

- Knowledge about restricted collections and their policies and contexts of use
- Data Capsule packaged as an appliance with support for new collection types and use cases
- Understanding of library-tech-research collaborations
- Emerging sense of community
UVA Use Case

• Running captioning software on in-copyright video collections (with new urgency, now that Apple has bought the Pop Up Archive captioning service)
• Working with others in the project to create push-button installation of the Data Capsule software
• Understanding how something like the Data Capsule might factor in to other library projects, like …
UVA Context

• Work with the Library of Congress to provide computational access to remote collections of copyrighted digital media (held at the LOC’s Packard campus)

• Work with Ithaka to understand the perceived demand and available support for text data mining, as seen by scholars, librarians, and publishers

• Work with Portico and JSTOR to explore text-mining across distributed collections of copyrighted material
Software curation study

The majority of the 30% who couldn’t share related files indicated that this because of licensing issues or the data is sensitive.

Data ownership and privacy issues are barriers to data sharing

<table>
<thead>
<tr>
<th>Reason</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyzed subset made available</td>
<td>1</td>
</tr>
<tr>
<td>Data already available (e.g. public domain, in archive)</td>
<td>3</td>
</tr>
<tr>
<td>Data privacy issues</td>
<td>13</td>
</tr>
<tr>
<td>Desire to preserve ownership rights</td>
<td>1</td>
</tr>
<tr>
<td>Did not ask participants for permission</td>
<td>1</td>
</tr>
<tr>
<td>IRB issues</td>
<td>7</td>
</tr>
<tr>
<td>Lack of time</td>
<td>20</td>
</tr>
<tr>
<td>No incentive</td>
<td>1</td>
</tr>
<tr>
<td>Not common in our field</td>
<td>1</td>
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Mitchell, Moulainson-Sandy, Corrado. Making a case for Open Research. ASIS&T conference. October 2017
Where HTRC fits @ UCB

<table>
<thead>
<tr>
<th>Technical environment</th>
<th>Use case</th>
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<tbody>
<tr>
<td>HTRC</td>
<td>Packaged virtual environments including data protected from researchers</td>
</tr>
<tr>
<td>&quot;Cold room&quot;</td>
<td>Non-connected compute environments</td>
</tr>
<tr>
<td>Analytic Environments on Demand</td>
<td>Virtually partitioned streamed desktop with connected secure storage</td>
</tr>
<tr>
<td>Savio</td>
<td>High performance computing</td>
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Technical Discussion and Models for Restricted Data

• Standard platforms and Tools
  – Machine independence
  – Push-button installation

• Security requirements evolve faster than other parts of the problem

• Data mining across collections without co-location solves policy problems
Discussion Topics

• Dealing with sustainability for the software and infrastructure: few examples of research projects that produced lasting library infrastructure (ArchivesSpace, DuraSpace, MONK?)

• More needs to be known about the use cases for libraries and archives

• Does the Data Capsule offer any way of dealing with new e-licensing platforms that allow use of copyrighted data only in closed environments?
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