CIVIC DIGITAL FELLOWSHIP

Improving Access and Interoperability between the ADREC Metadata Shares and DMS

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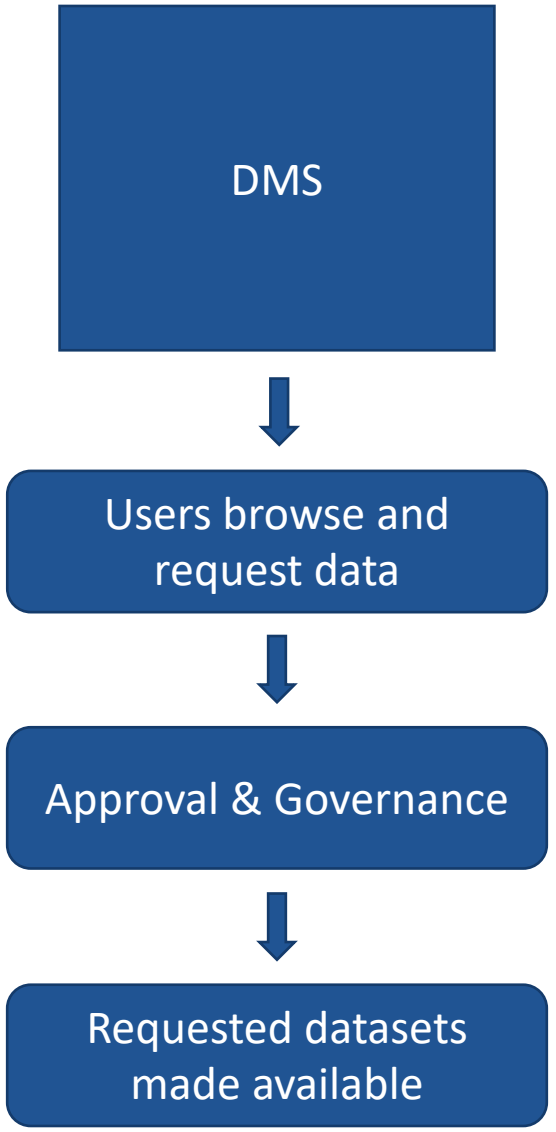
Policy and Data Stewardship Branch

Issue: ADREC resources inaccessible

ADREC

- 6000 directories and subdirectories
- Rich metadata resource that is currently inaccessible to users of the DMS



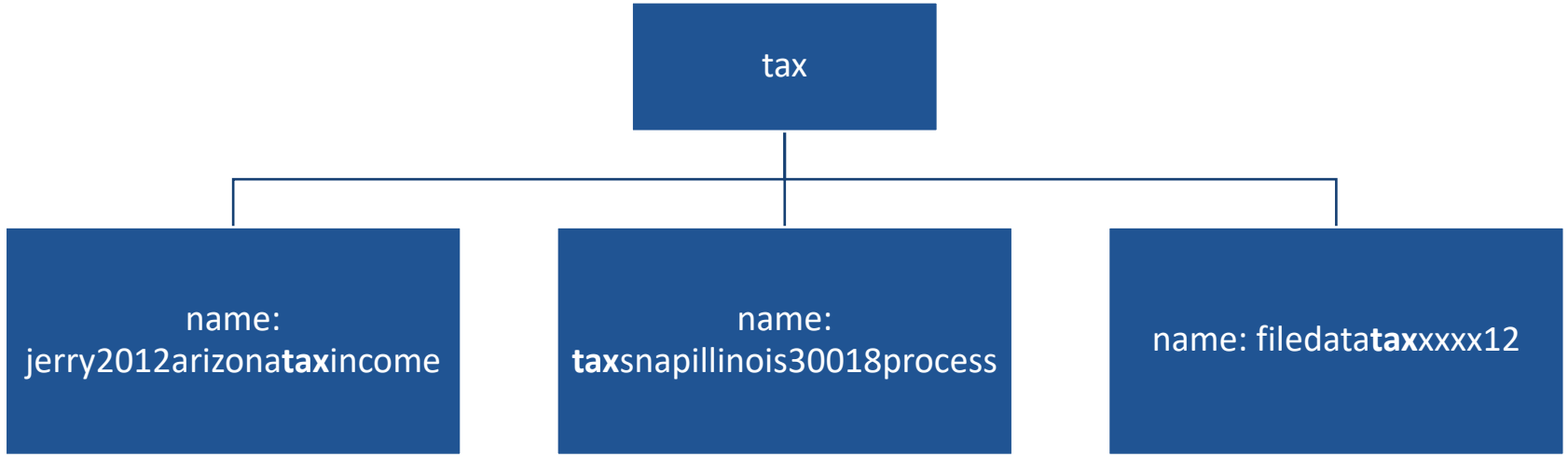
Project Objectives

Mature and optimize delivery of Census data by implementing a:

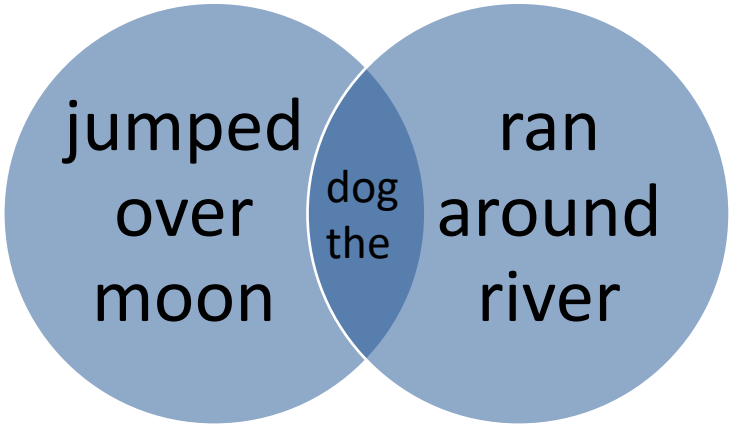
1. **Method for traversing the ADREC metadata share**
2. **Crosswalk between the ADREC and DMS nomenclature**
3. **API to access ADREC metadata associated with a given dataset/series in the DMS**

Finding Language Associations

- **Fuzzy matching algorithms had quadratic runtime and low hit rate**
- **Needed to make the problem smaller**
  - **Group files with blocking predicates**
  - **Use string similarity algorithms to find further associations**

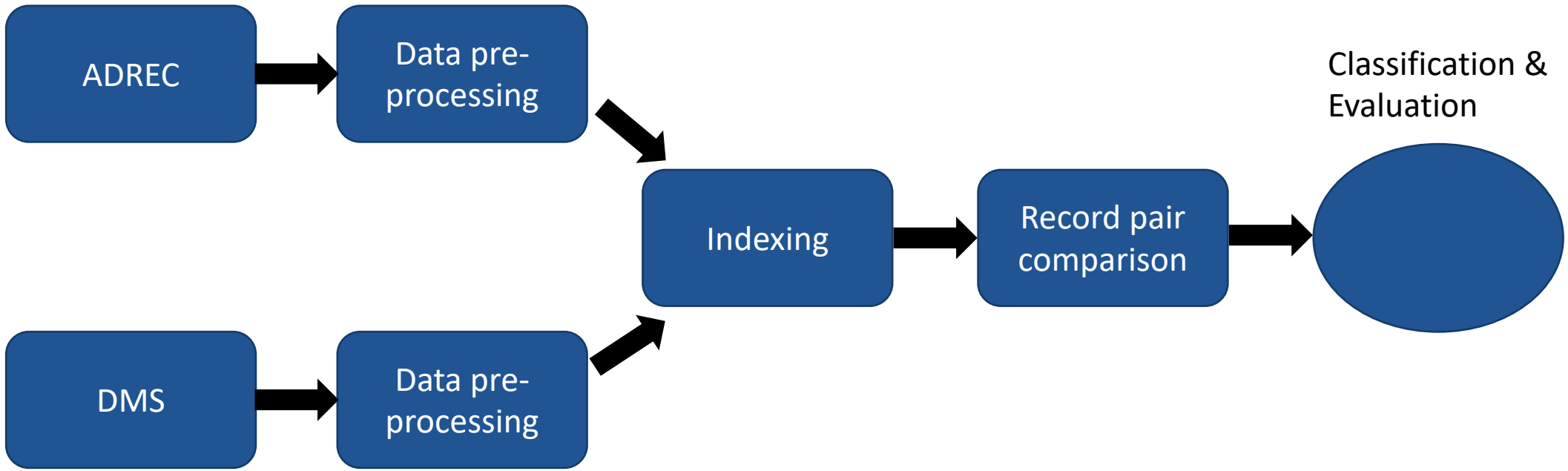


Jaccard String Similarity



$$J(A,B) = \frac{|A \cap B|}{|A \cup B|}$$

Record Linkage Process



Deliverables

- ✓ **Web Search Engine**

  Tools and Skills: Java, Spring Boot, Thymeleaf, Maven, Subversion, Junit

- ✓ **Database of Associations**

  Tools and Skills: Python, Record Linkage, Subversion

- ✓ **In Progress: API**

  Tools and Skills: Java, REST API Principles, Spring Boot, SQL, Maven, Subversion, Junit

Future Steps: Expand classification methods, develop a method for keeping the DMS current on changes to the ADREC metadata share