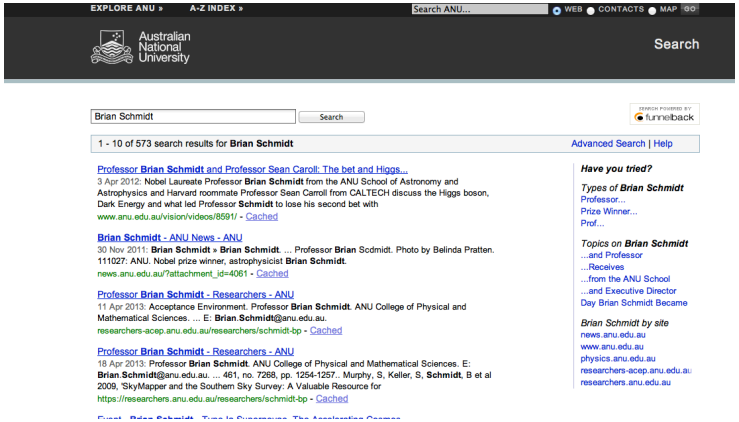
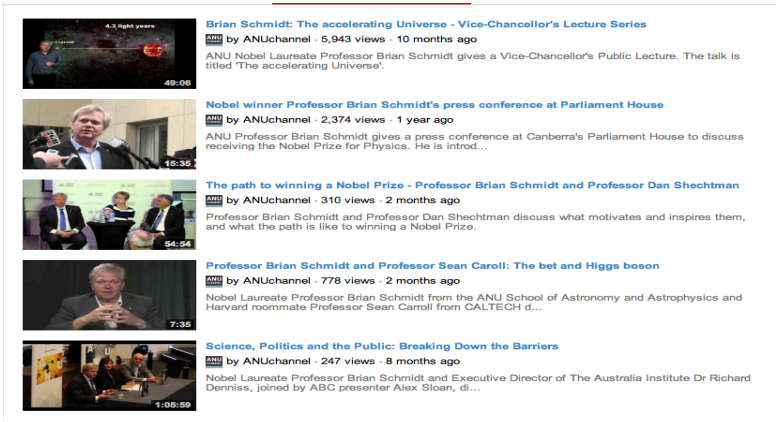
Merging algorithms for MetaSearch

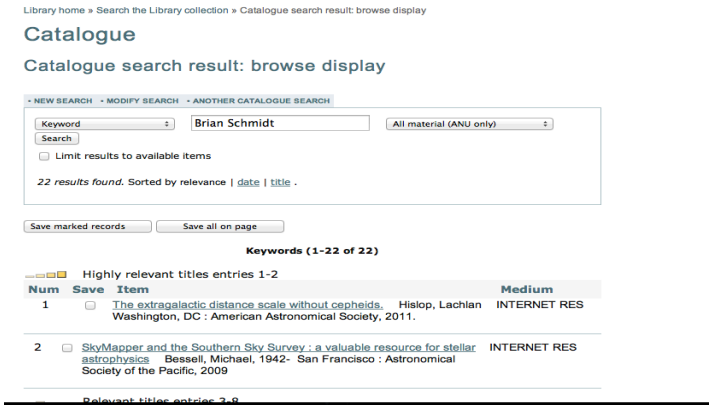
U4959060 PengFei Li
Supervisors: David Hawking, Paul Thomas

Topic Review

- Search Information about the Nobel Prize Winner Brian Schmidt



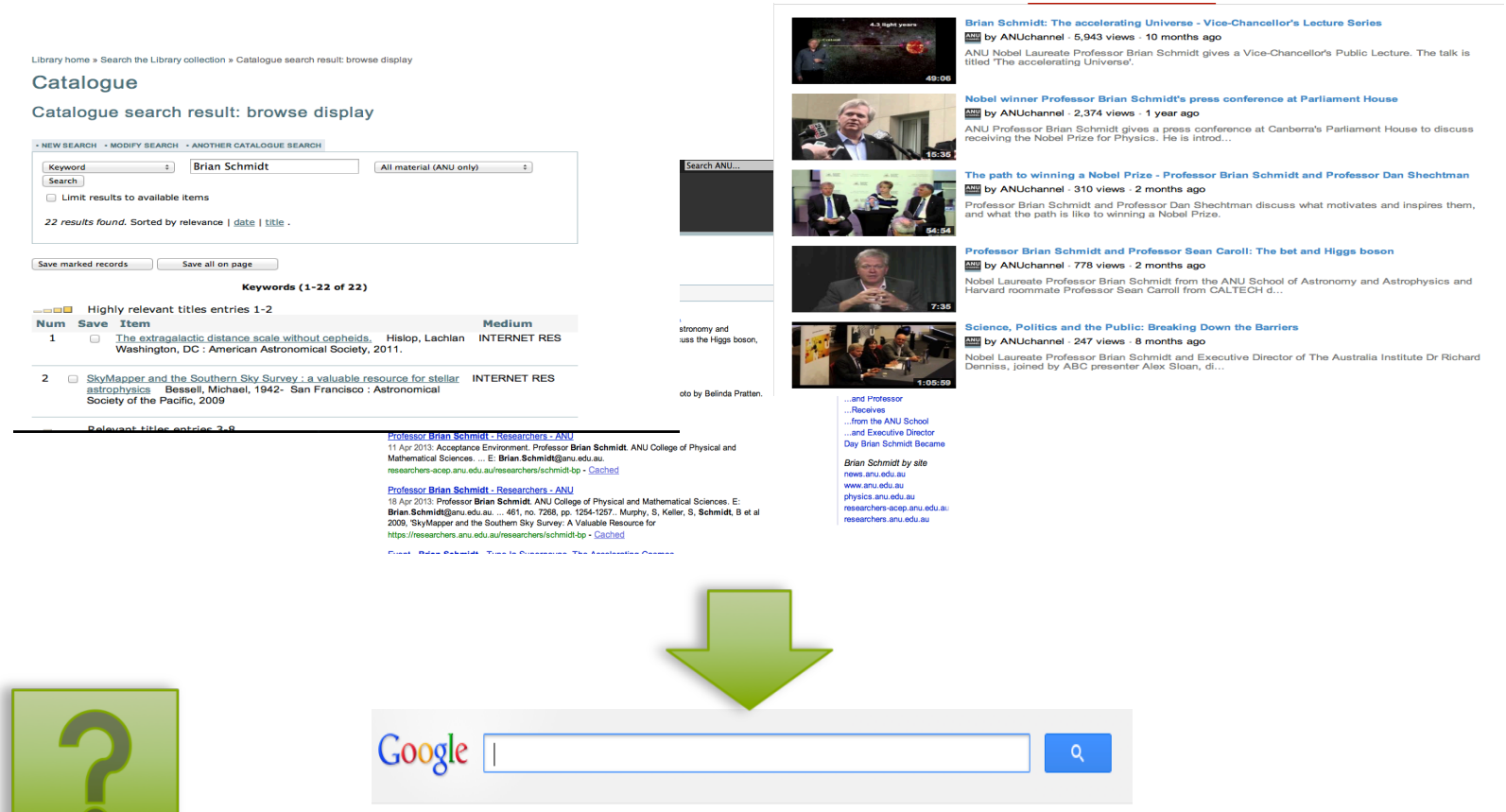




• • •

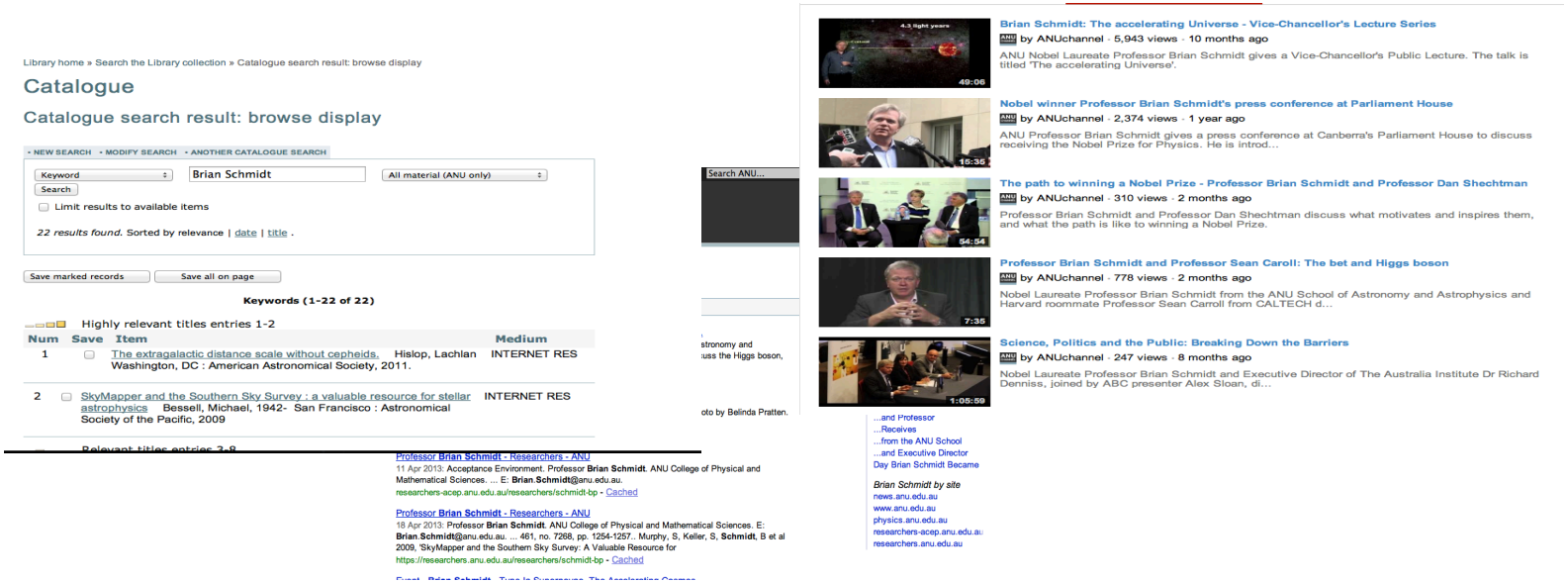
Topic Review

- Search Information about the Nobel Prize Winner Brian Schmidt



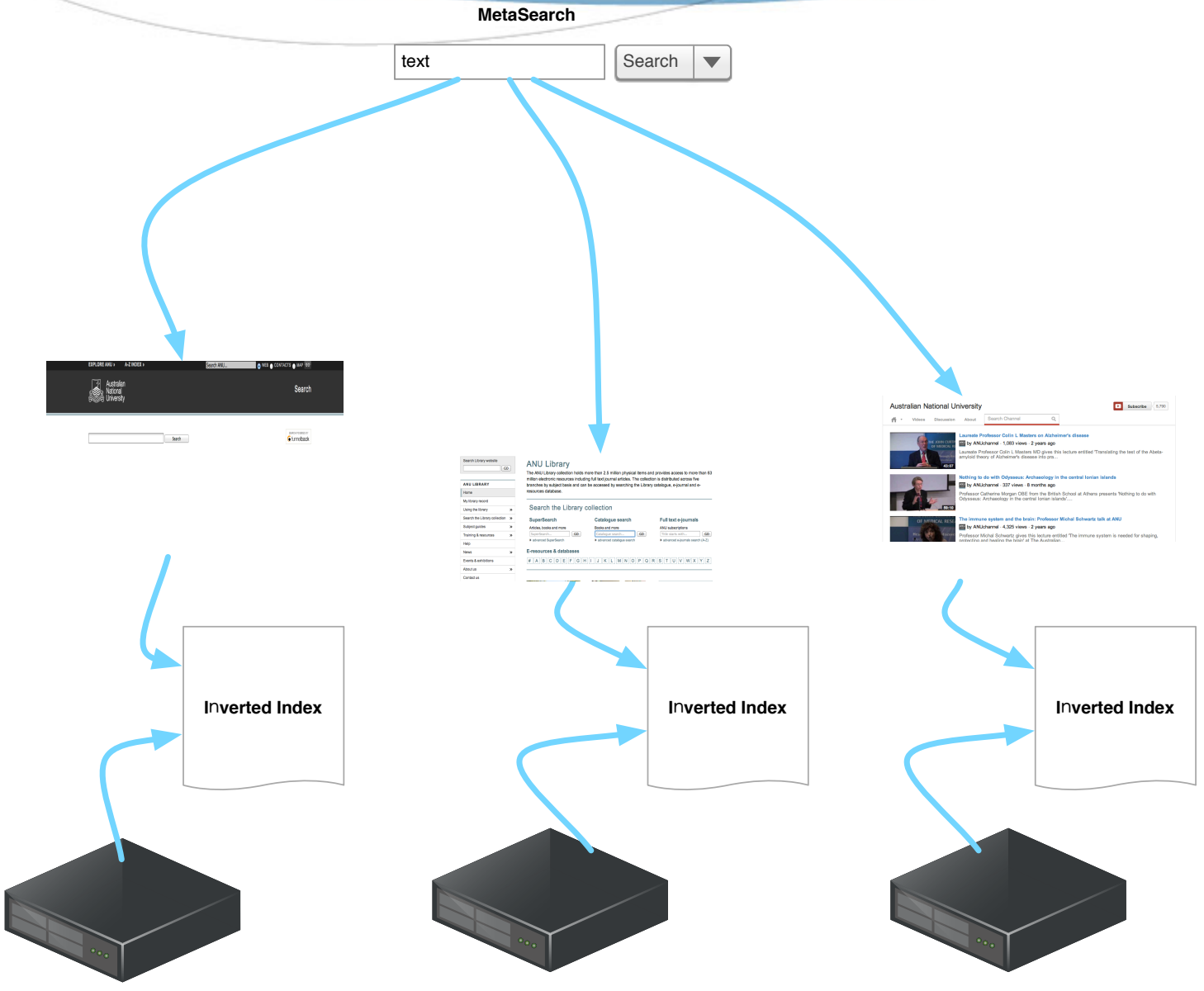
Topic Review

- Search Information about the Nobel Prize Winner Brian Schmidt

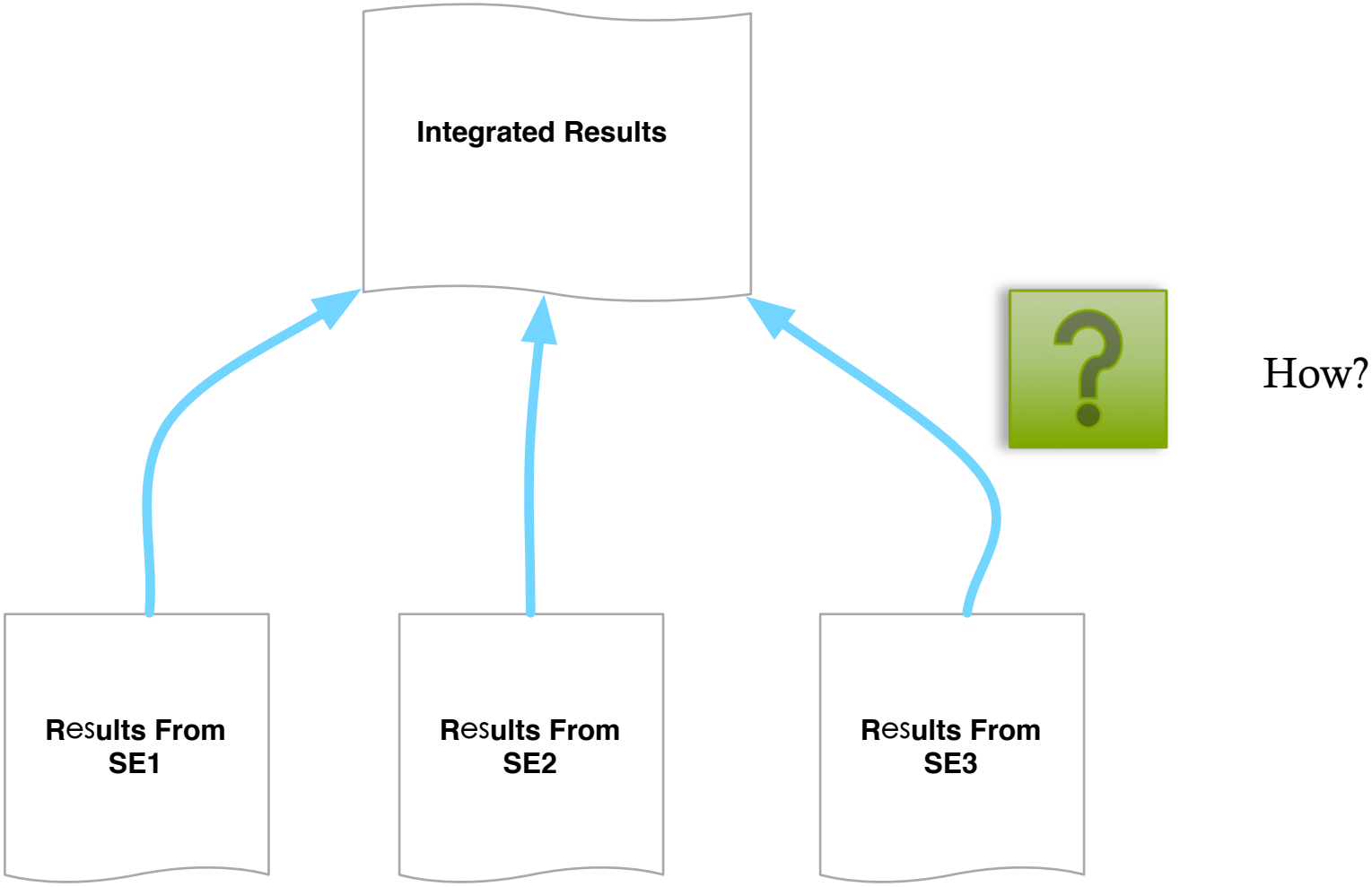


Meta-search

Topic Review



Topic Review



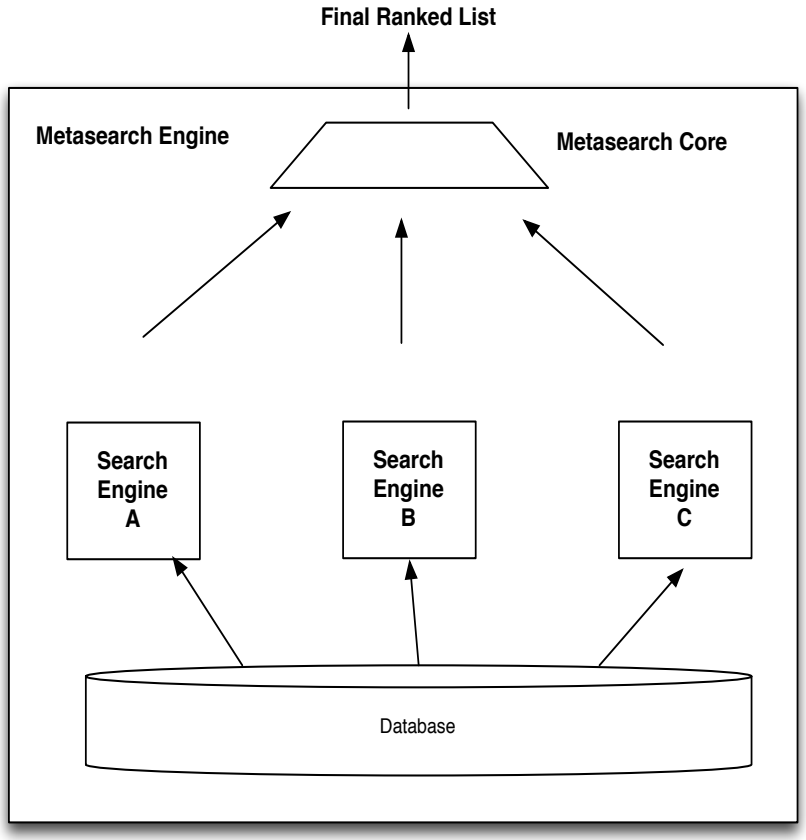
How?

Plan Review

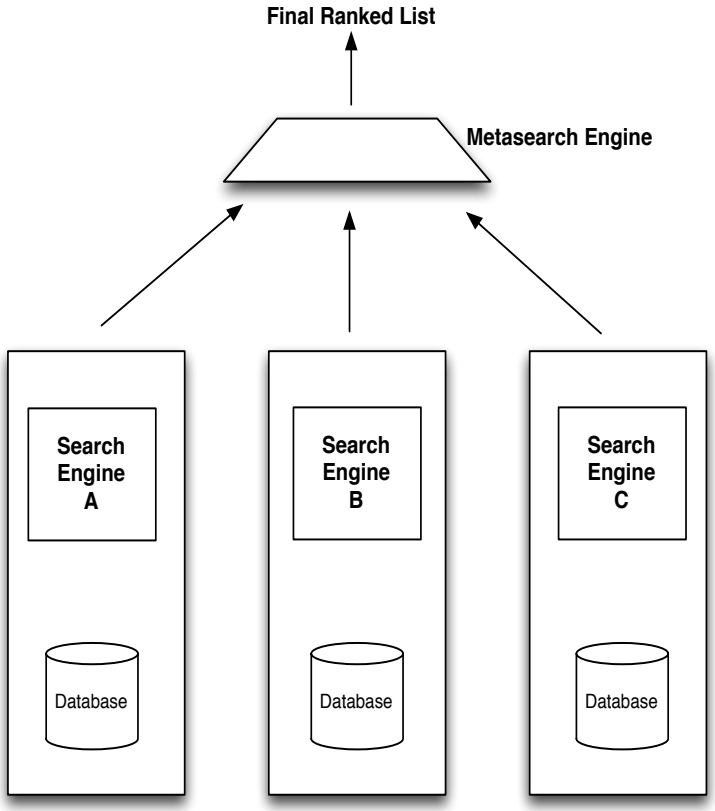
- Literature Review ✔
- Data Collection ✔
- Framework Building ✔
- Algorithm Implementation (4 Implemented)
- Algorithm Developing
- Testing
- Evaluation (On going)
- Writing (On going)

Previous Works

- Aggregated Meta-search



- Non-aggregated Meta-search



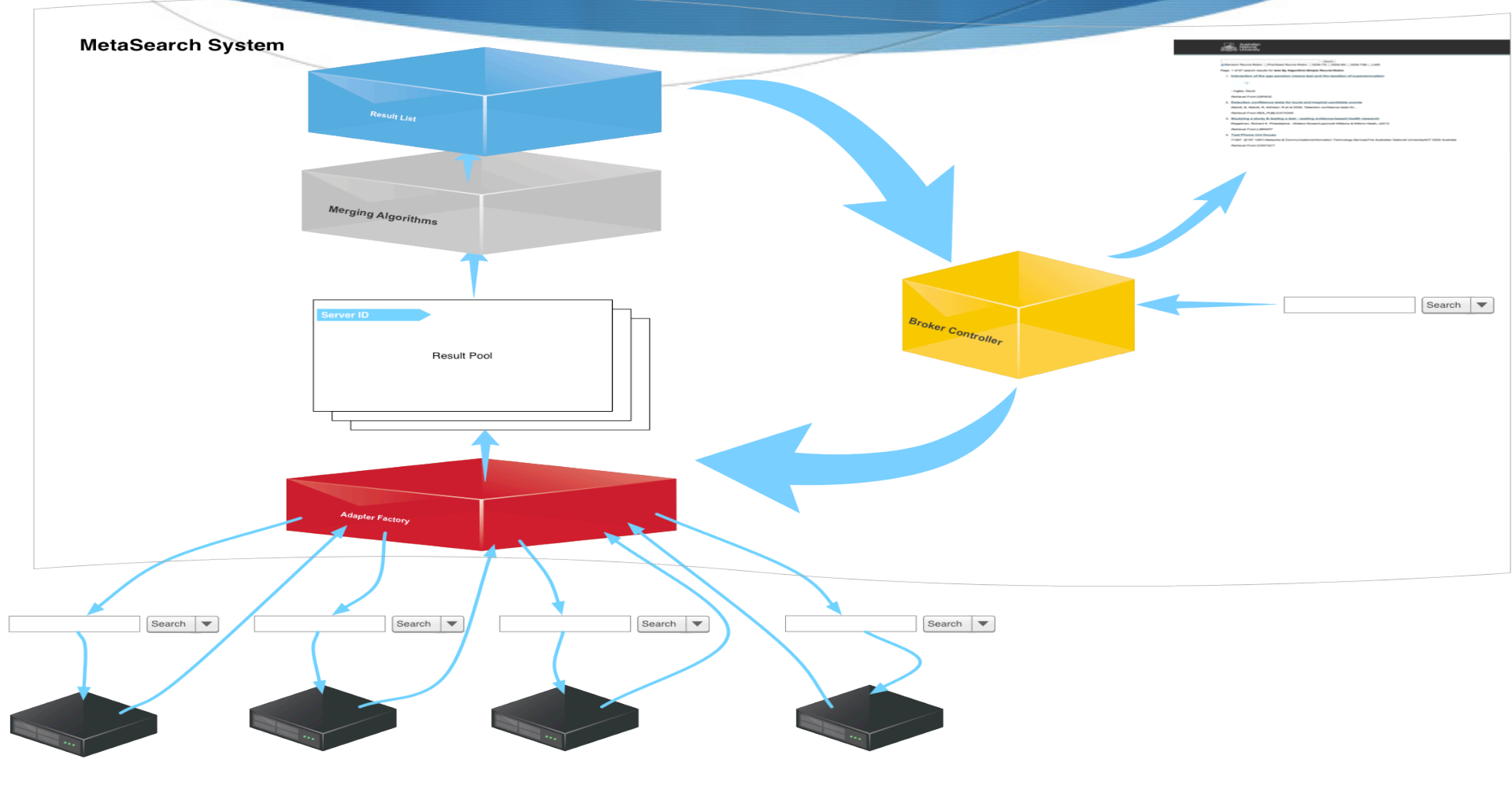
Previous Works

- General Methods
  - Round-Robin
  - Raw-Score Algorithms
    - Original Score
    - Estimated Score
  - Collection Weight
  - Machine Learning Approaches
    - SSL
    - Document Distribution
    - Clustering
    - Bayes's theorem.

Previous Works

- Aggregated-Meta-Search-Specific Methods
  - Linear Combination
    - CombXX (Fox & Shaw 1994)
    - LC model
  - Voting Algorithm
    - Borda-fuse
    - Condorcet Fusion

Architecture



Australian National University

Search

◉Random Round-Robin ○Prioritized Round-Robin ○GDS-TS ○GDS-SS ○GDS-TSS ○LMS

Page: 1 of 67 search results for **test By Algorithm:Simple Round-Robin**

1. **Interaction of the age pension means test and the taxation of superannuation**

   - Ingles, David

   Retrieval From:DSPACE

2. **Detection confidence tests for burst and inspiral candidate events**

   Abbott, B, Abbott, R, Adhikari, R et al 2008, 'Detection confidence tests for...

   Retrieval From:RES_PUBLICATIONS

3. **Studying a study & testing a test : reading evidence-based health research**

   Riegelman, Richard K Philadelphia : Wolters Kluwer/Lippincott Williams & Wilkins Heath, c2013

   Retrieval From:LIBRARY

4. **Test Phone Uni House**

   71267 (6197 1267) Networks & CommunicationsInformation Technology ServicesThe Australian National UniversityACT 0200 Australia

   Retrieval From:CONTACT

Algorithm Implementation

- Round-Robin
- Weighted Round-Robin
- Generic document score

$$w_{ij} = \frac{NQW_i}{\sqrt{L_q^2 + LF_i^2}}$$

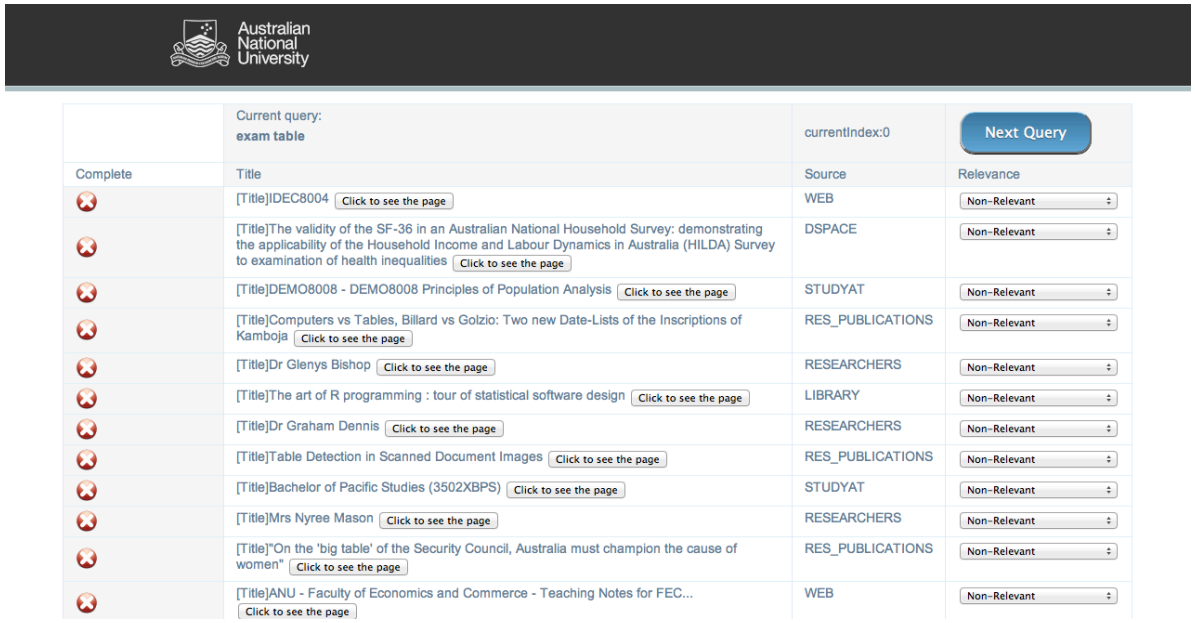
- LMS

Evaluation

- Evaluation Methods
- Document Score Gathering
  - Source of Queries
  - Source of Assessors
  - Query Allocation
  - User Interface
- Evaluation Process

Evaluation

- http://relsevaluation.appspot.com



Next Step

- Executing Evaluation
- Implementing Previous Algorithms
- Evaluation cycle
- New idea (Extending SSL?)
- Thesis Writing

Question?

Thank you!