



ResEval: A Mashup Platform For Research Evaluation

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Primary Users of Research Evaluation

External Entities

Government agencies/funding organizations

- Funding of research projects
- Govt. policy for future investment

University Management

Management, including committees,

- Faculty recruitment and promotion

University Departments

Institutional research, academic affairs, tech transfer, etc.

- Institutes, department and individual evaluation

Individuals

Faculty, Staff, Students

- Finding experts in some specific area

Some Dimensions in Research Evaluation



Different Things

- Individual
- Groups
- Artifacts
- Universities
- Countries

...

Different Purposes

- Funding
- Future Policy
- Finding Expert
- Hiring
- Promotions

...

Different Data Sources

- Google Scholar
- DBLP
- Scopus
- ACM
- User's DS

...

Different Metrics

- H-Index
- G-Index
- C-Index
- N-Index

...

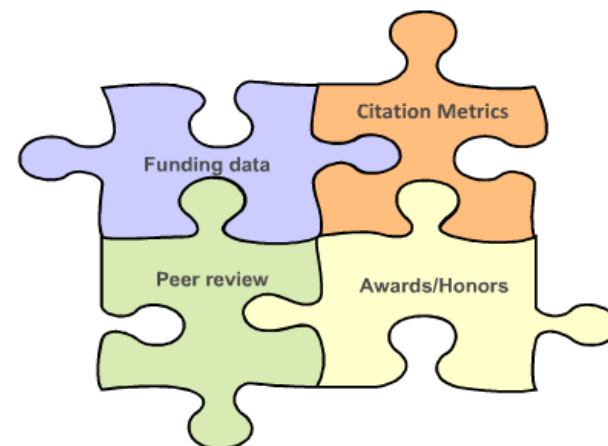
Different Algorithms

- Diff aggregation
- Diff normalization
- Self-Citation
- Filters

...

How is research evaluation currently done ?

- Peer Evaluation
 - Panels, Auditing Exercises, Interviews..
 - Expensive, time consuming
- Based on quantitative (available) data
 - Publication counts (N-index)
 - Citation counts (C-index)
 - Bibliometric metrics (H*index, G*-index,..)
 - Number of and value of grants awarded
 - Number of awards
 - Number of patents
 - Number of post-graduate researchers
 - Reputation, Rating
 - Voting, Ranking
 - And many more ...



Some Existing Tools

CiteSeer.IST
Scientific Literature Digital Library

Google
scholar beta

Reseaval
Beta

Search & Evaluations

Search for: Author Contribution

Publish or Perish Tool

Year	Title	Author	Publisher
2009
2008
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2006
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1980

CIDS v3.0 BETA

Microsoft **Academic Search** Beta

[advanced options](#)

SciFinder

Scholarometer

Web of Science

ISI Web of Knowledge

Web of Science

Search for: [Example of "AIDS" Youth Sex] = Filter

[Example of "AIDS" Youth Sex] = Filter

[Example of "AIDS" Youth Sex] = Filter

Search Clear

Current Lists: [Example of "AIDS" Youth Sex]

Open "Change Links and Settings" to link to knowledge and choose databases.

THOMSON

SCOPUS
refine your research

DBLP

ftp.uni-trier.de
Computer Science Bibliography

ResEval v1.0

Reseval
Beta

[advanced options](#)

Search & Evaluations

Search for: Author Contribution

LiquidPub Project: Grant number 213360, acronym LiquidPublication under THEME 3: FP7-ICT-2007-C FET OPEN.

 Fabio CASATI [advanced options](#)

Search for: Author Contribution

Stats about: [Fabio CASATI](#)

H-index	G-index	N-index	C-index	Citations/paper
38	70	329	5320	16.17

Last computation: 2010-10-12 - 12:42:32

[Recompute metrics](#)

[Adaptive and dynamic service composition in eFlow](#)

Authors: f casati, s ilnicki, l j jin, v krishnamoorthy, ...
Venue: Advanced Information ...
Date: 2000
Citations: 516

[Dynamic and adaptive composition of e-services](#)

Authors: f casati, m c shan
Venue: Information systems
Date: 2001
Citations: 313

[Web services](#)

Authors: g alonso, f casati, h kuno, v machiraju
Venue: n.d
Date: 2004
Citations: 254

[Business process intelligence](#)

Authors: d grigori, f casati, m castellanos, u dayal, m ...
Venue: Computers in ...
Date: 2004
Citations: 236

[Automated SLA monitoring for web services](#)



Fabio CASATI

Search

[advanced options](#)

Search for: Author Contribution

Stats about: [Fabio CASATI](#)

H-index without self citations

36

Last computation: 2010-10-12 - 12:42:32

Adaptive and dynamic service composition in eFlow

Authors: f casati, s ilnicki, l j jin, v krishnamoorthy, ...
Venue: Advanced Information ...
Date: 2000
Citations: 516
Self Citations: 26

Dynamic and adaptive composition of e-services

Authors: f casati, m c shan
Venue: Information systems
Date: 2001
Citations: 313
Self Citations: 2

Web services

Authors: g alonso, f casati, h kuno, v machiraju
Venue: n.d
Date: 2004
Citations: 254
Self Citations: 4

Business process intelligence

Authors: d grigori, f casati, m castellanos, u dayal, m ...
Venue: Computers in ...
Date: 2004
Citations: 236

Top citers list

- b benatallah 210
- 108
- m dumas 78
- u dayal 76
- mc shan 68

Co author list

Recompute

- m c shan 74
- b benatallah 74
- u dayal 50
- m sayal 18
- m castellanos 16



Adaptive and dynamic service composition

Search

[advanced options](#)

Search for: Author Contribution

Stats about: Adaptive And Dynamic Service Composition In EFlow

Metric Name	Citations	Title of Citation	Authors
citation count	516	Adaptive and dynamic service composition in eFlow	f casati, s ilnicki, l j jin, v krishnamoorthy, ...

Last computation: 2010-10-12 - 12:42:32

[Recompute metrics](#)

[Adaptive and dynamic service composition in eFlow](#)

Authors: f casati, s ilnicki, l j jin, v krishnamoorthy, ...
 Venue: Advanced Information ...
 Date: 2000
 Citations: 516

[Adaptive and Dynamic Service Composition in eFlow, HP Lab](#)

Authors: f casati, s ilnicki, l j jin, v krishnamoorthy, m c shan
 Venue: Techn. Report HPL-
 Date: 2000
 Citations: 10

[Ch.: Adaptive and Dynamic Service Composition in eFlow](#)

Authors: f casati, s ilnicki, l j jin, v krishnamoorthy, m ming ...
 Venue: Lecture Notes in Computer ...
 Date: n.d
 Citations: 3

[Adaptive and Dynamic Service Composition in eFlow](#)

Authors: s i fabio casati, l j jin
 Venue: n.d
 Date: 2000
 Citations: 2

RESEVAL

evaluate and compare the performance of researchers and research groups

specify one or more names to evaluate

Measure

Top evaluated researchers

Nevin Heintze
Maurizio Marchese
Fabio Casati
Dino Oliva
Bruno Crispo

Top created groups

Temporary Compare Group

Top conducted comparisons

Test

ResEval v1.1

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RESEVAL








More features soon!

FABIO CASATI

H-Index 23 G-Index 46 N-Index 149 C-Index 2417

Custom computation

Publications

-  Liquid journals: scientific journals in the Web 2.0 era.
Marcos BÃ¡fÃ¡ez, Alejandro Mussi, Aliaksandr Birukou, Maurizio Marchese, Not cited yet
-  Exploring and Understanding citation-Based Scientific Metrics.
Mikalai Krapivin, Maurizio Marchese, Not cited yet
-  Universal Resource Lifecycle Management
Marcos BÃ¡fÃ¡ez, Maurizio Marchese, Cited 1 times
-  Gelee: Cooperative Lifecycle Management for (Composite) Artifacts
Marcos BÃ¡fÃ¡ez, Cristhian Parra, Maurizio Marchese, Florian Daniel, Kasia Meo, Silvia Zobebe, Carlo Menapace, Beatrice Valeri, Not cited yet
-  Exploring and Understanding Scientific Metrics in Citation Networks
Mikalai Krapivin, Maurizio Marchese, Not cited yet
-  Liquid Publications: Scientific Publications meet the Web
Fausto Giunchiglia, Maurizio Marchese, Not cited yet
-  Publish and perish: why the current publication and review model is killing research and wasting your money
Fausto Giunchiglia, Maurizio Marchese, Not cited yet

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- David Zancarli
- Dimitrios Georgakopoulos
- Farouk Toumani
- Florian Daniel
- Halvard Skogsrud

Some problems in existing solutions

- Restrictions on unit of evaluation
 - papers and individuals
- Fixed/wired-in data sources
 - completeness
 - quality
- Fixed/non-flexible metrics

Unit of Evaluation

- Individuals
- Groups of researchers
- Institutions (Departments, Schools, Universities..)
- Geographical units (City, Region, Country)
- Artifacts → not only papers
 - Datasets, Source code, Experimental Experimental protocols, Tools, Prototypes,, ...
- ...

Data Sources

- Publicly available data services
 - Citeseer / CiteSeerX
 - Google Scholar
 - Microsoft Academic
 - DBLP (no citation, yet..)
 - ...
- Paid data services
 - Scopus
 - ISI Web of Science
 - Thomson Reuters Journal Citation Report
 - ...

Complex Metric Computation Logic

Autonomy



Show h-index of Bob, excluding self-citations and the 3 top co-authors contributing to his h-index.

Diversity



Given a group of people that is considering to hire a person, how diverse is this person from the group

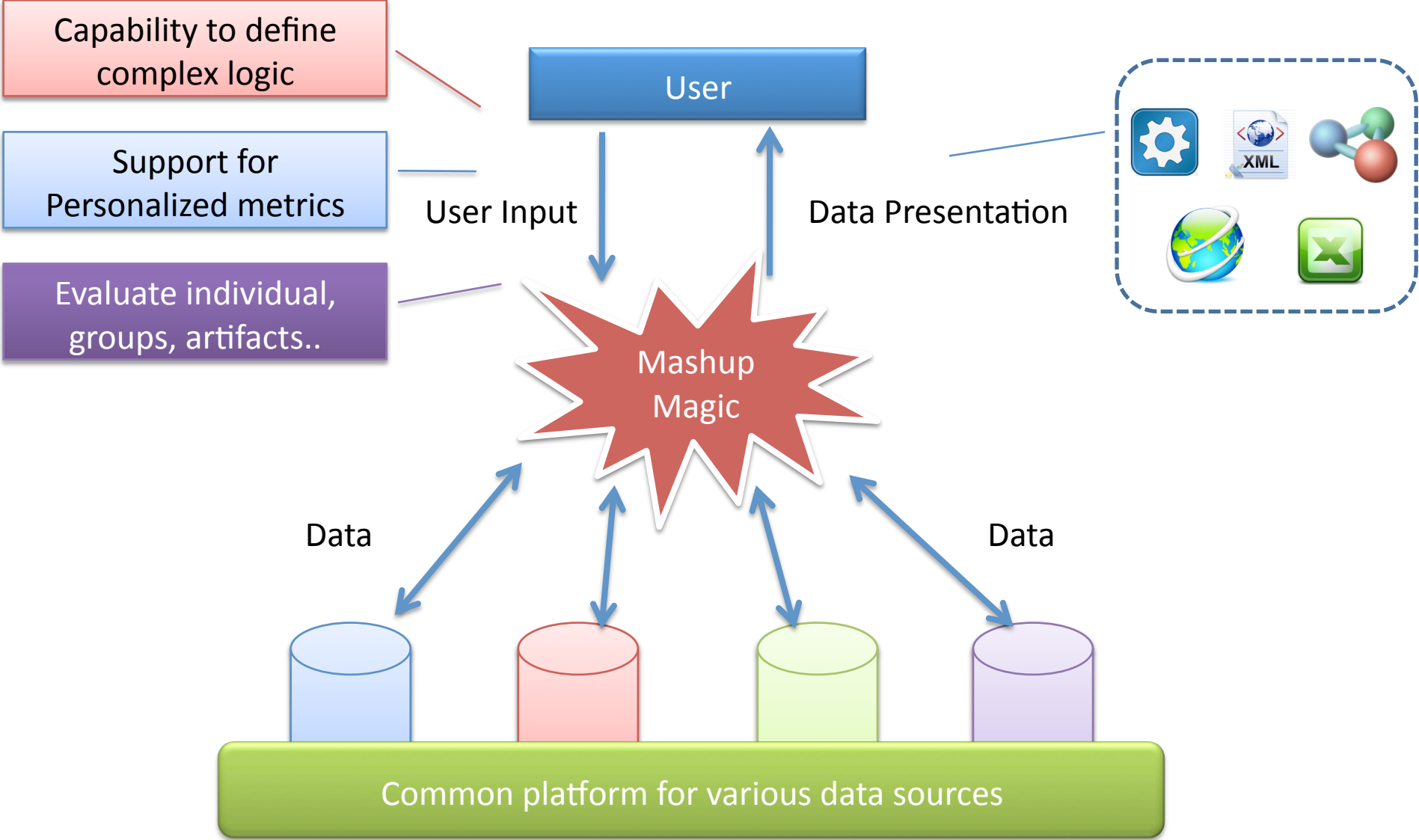
Variability



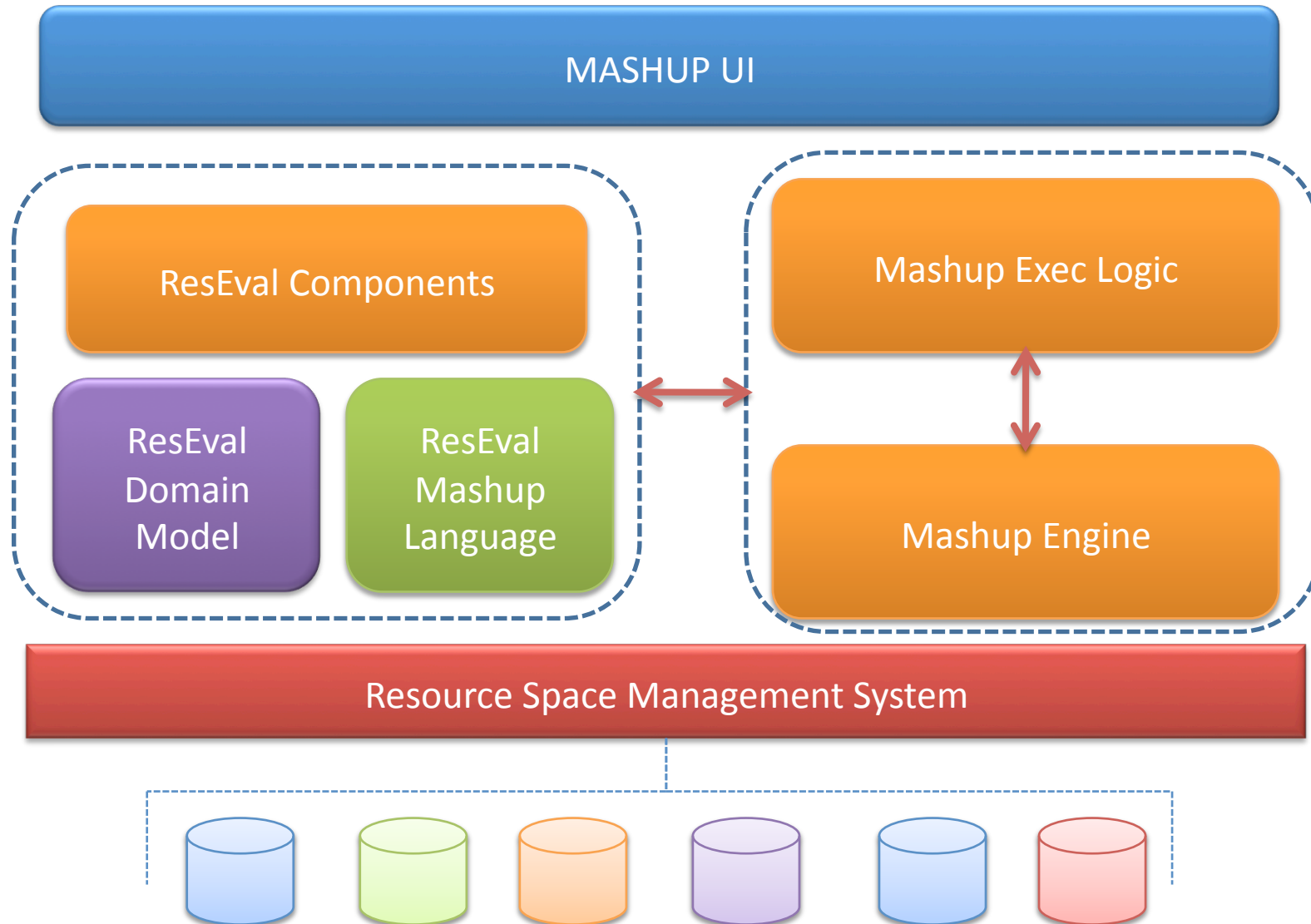
How many different authors contributing to Bob's h-index

Proposed Solution

Putting things together: Mashup framework

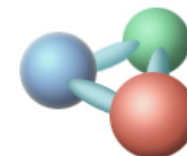
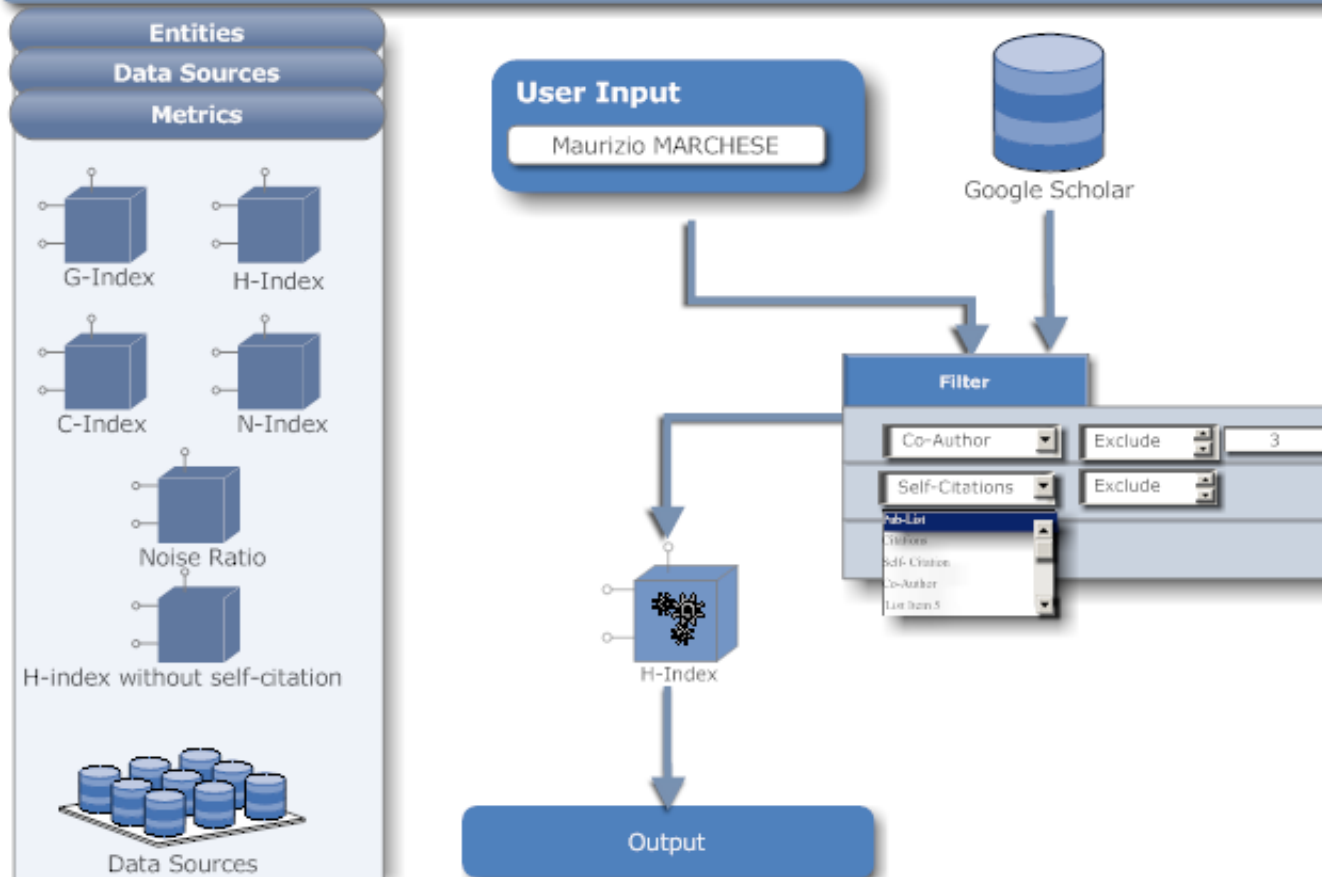


ResEval Mashup Architecture



ResEval Mashup (the vision)

ResEval MashQL



ResEval Mashup (the prototype)

Reseval [New] [Load] [Save] [Delete] [Help] *

Modules

- Researchers
- H Index
- G Index
- N Index
- Filter
- Output

```
<?xml version="1.0" encoding="UTF-8" standalone="no"?>
<reseval>
  <ComputationResult id="maurizio marchese">
    <metrics>
      <name>h-index</name>
      <value>20</value>
    </metrics>
  </ComputationResult>
</reseval>
```

Done

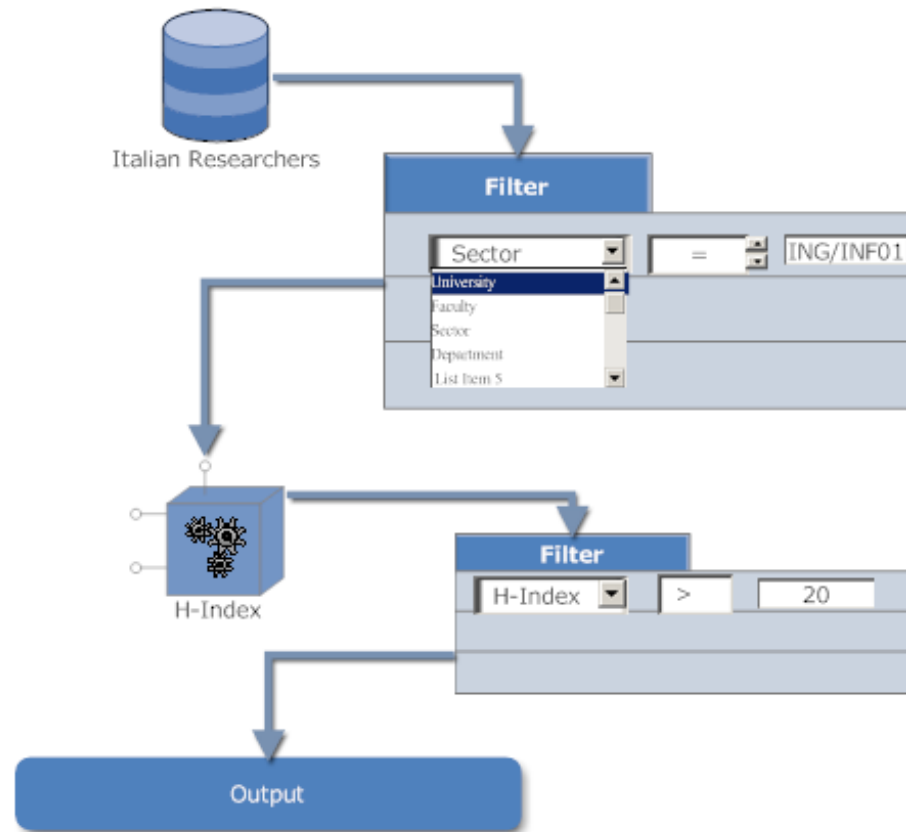
ResEval Mashup 2

ResEval MashQL

Entities
Data Sources
Metrics

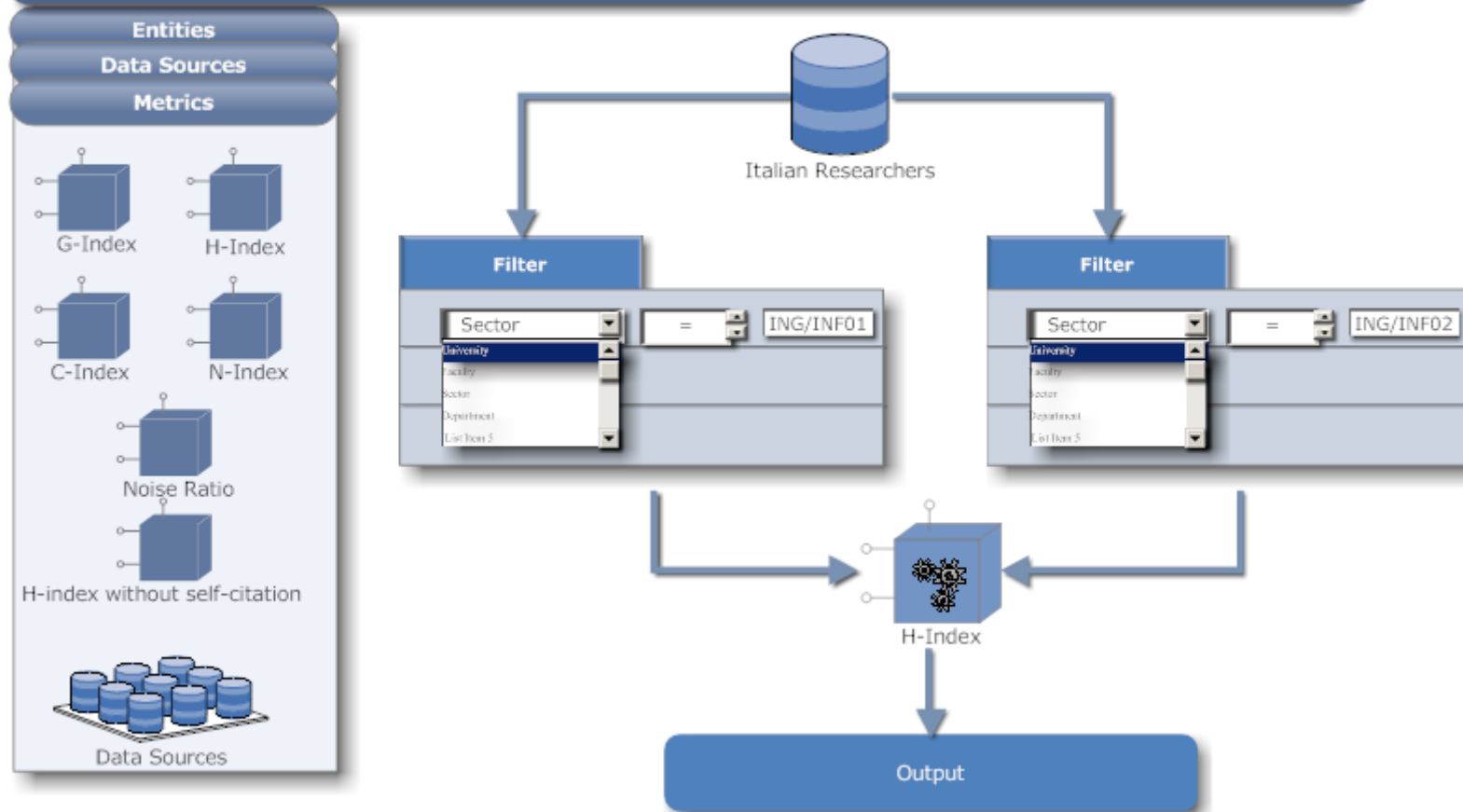
G-Index H-Index
C-Index N-Index
Noise Ratio
H-index without self-citation

Data Sources



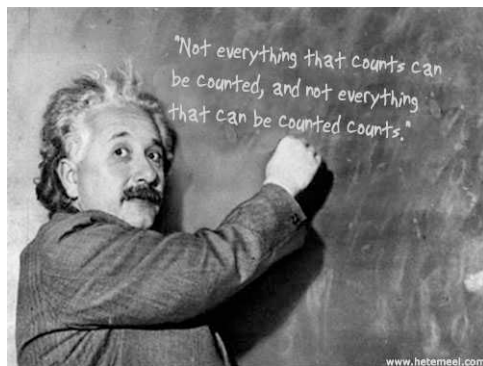
ResEval Mashup 3

ResEval MashQL



Conclusions and Future Work

- We propose an open mashup architecture for
 - Resource-Oriented approach to data sources
 - Personalized metrics definition
 - Easy to use mashup GUI
- Future work
 - Impact evaluation for a number of entities
 - Refine and formalize the evaluation mash-up domain model
 - Develop an evaluation mash-up language to define complex metric logic
 - Expose single components as web service



*Not everything that can be counted counts, and not everything that counts can be counted --
Albert Einstein*

Thank you for your attention



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<http://reseval.org/>