Roogle

a retrieval information system for medical research

Convergence with I2B2

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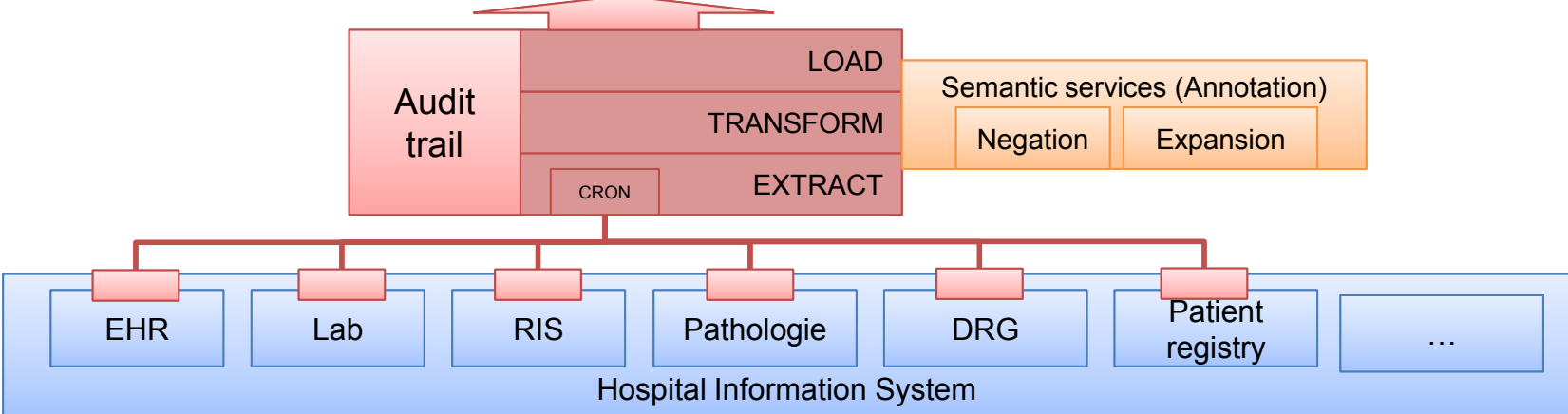
Objective of Roogle project

- To develop a global retrieval information system for medical research
- Dealing with freetext and coded data
- Providing tools to select patients or cohort
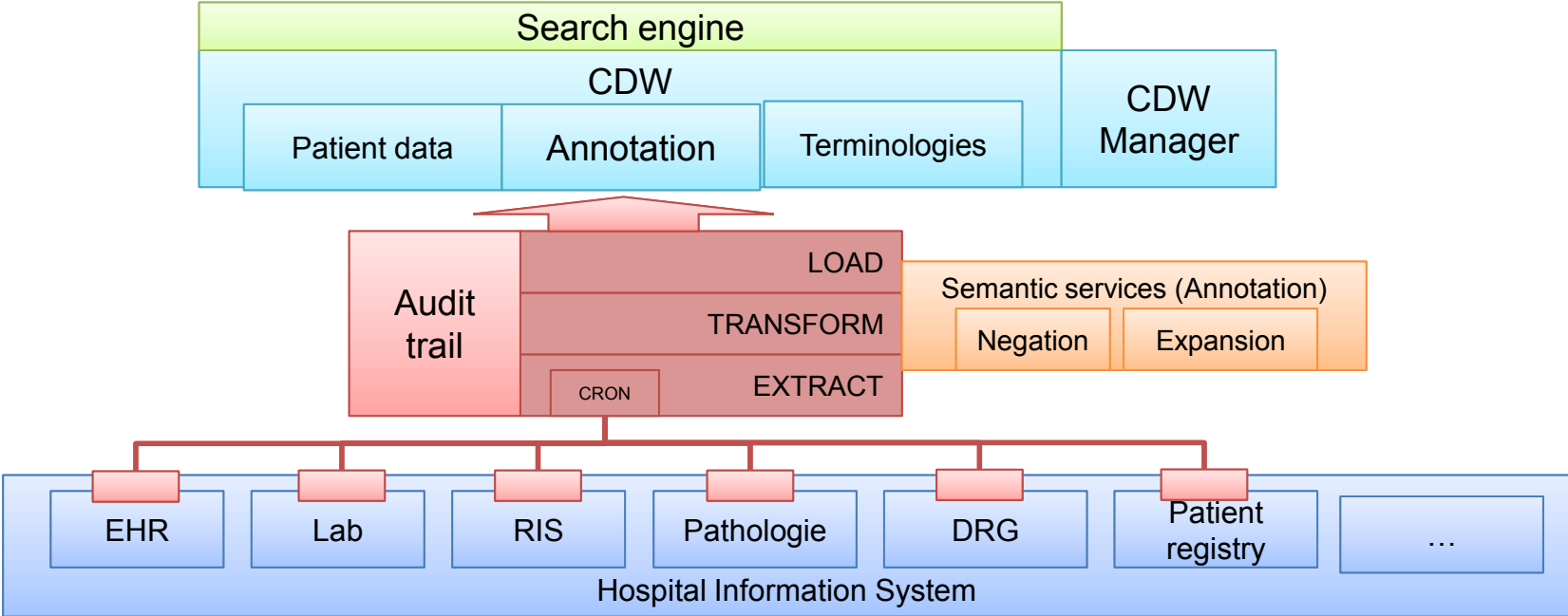- Quite similar to existing tools (I2B2, Stride, Archimed)

Goal of the presentation

- To present Roogle from
  - a technical
  - functional point of view
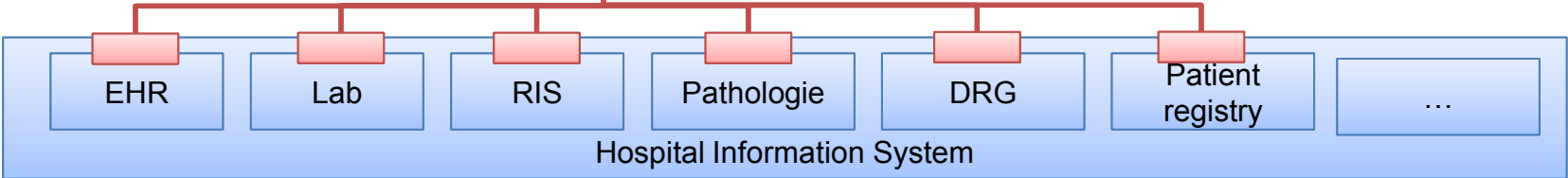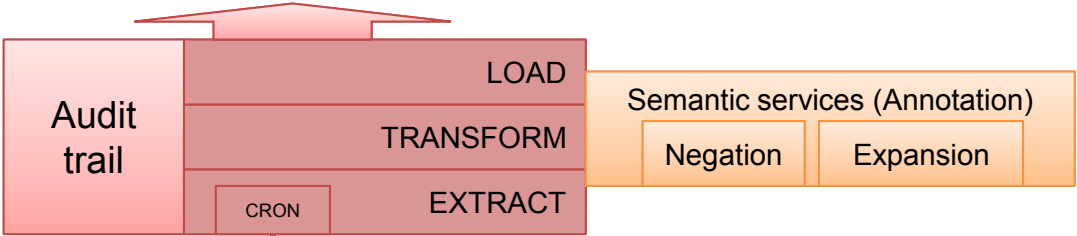
- To imagine how Roogle could interact with I2B2

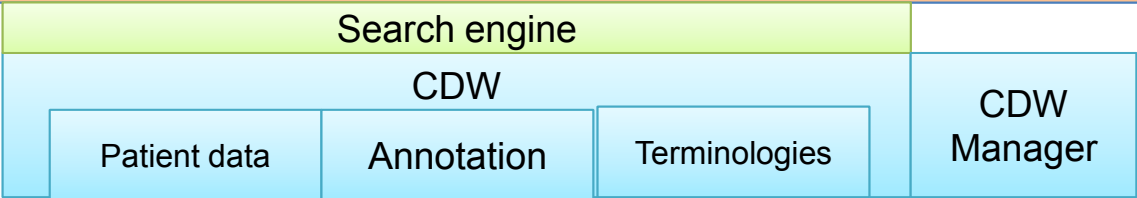# Technical aspect of Roogle (1)

- Web tool

- Languages :PHP, Ajax

- Database : Oracle

    – Oracle Text

    – Oracle Geolocation

- ETL : Perl scripts / Talend

- Terminology system : UMLS

Audit trail	LOAD		Semantic services (Annotation)	
	TRANSFORM		Negation	Expansion
	CRON	EXTRACT		

EHR | Lab | RIS | Pathologie | DRG | Patient registry | …

Hospital Information System

Search engine

CDW

CDW Manager

Patient data | Annotation | Terminologies

Audit trail

LOAD

TRANSFORM

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Semantic services (Annotation)

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Hospital Information System

WORKBENCH

Query Builder

| Structured Query | Free Text Query |
| Temporal Query | Combi Criteria |

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Result Visualization

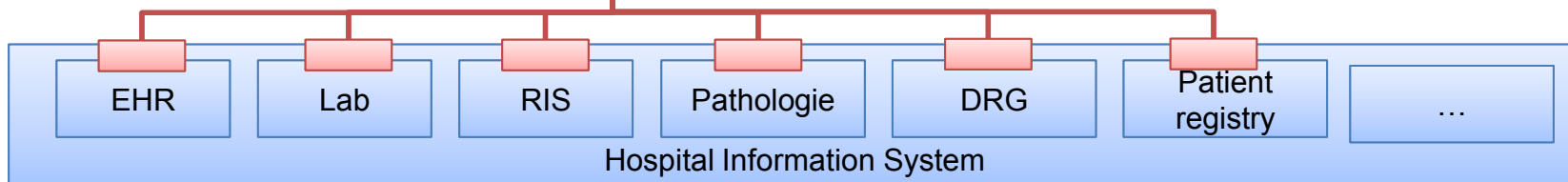| Statistics	Patient & working lists	CDW Patient data	Time Line	Geo location

Legacy EHR Access

De-ID Tool

Search engine

CDW

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Patient Selection tool

Basket Manager	Gestion inclusion/exclusion	Datamart Manager	Import/Export Data tool

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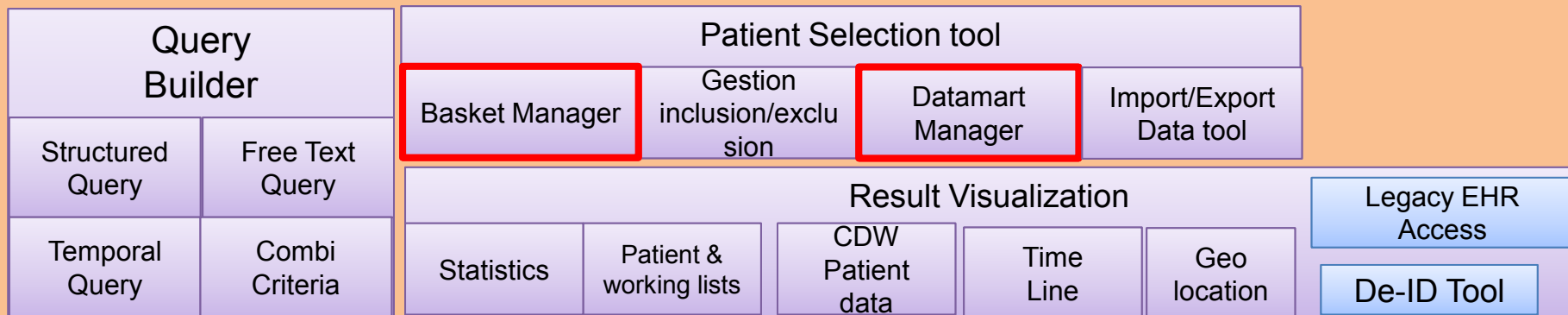| Statistics	Patient & working lists	CDW Patient data	Time Line	Geo location

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WORKBENCH

Study request manager	Workflow Communication	Study Dashboard	« Non consent to be recontacted » registry		User Manager	User Directory

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Hospital Information System

Functional description

- Demo Roogle
- Example taken from a realistic clinical trial
- Find patients with the following criteria :

Inclusion
+ Age : 30 to 90 years
+ Finding : dyskinesia
+ Drugs : rasagiline or selegiline or deprenyl or Otrasel or LDopa
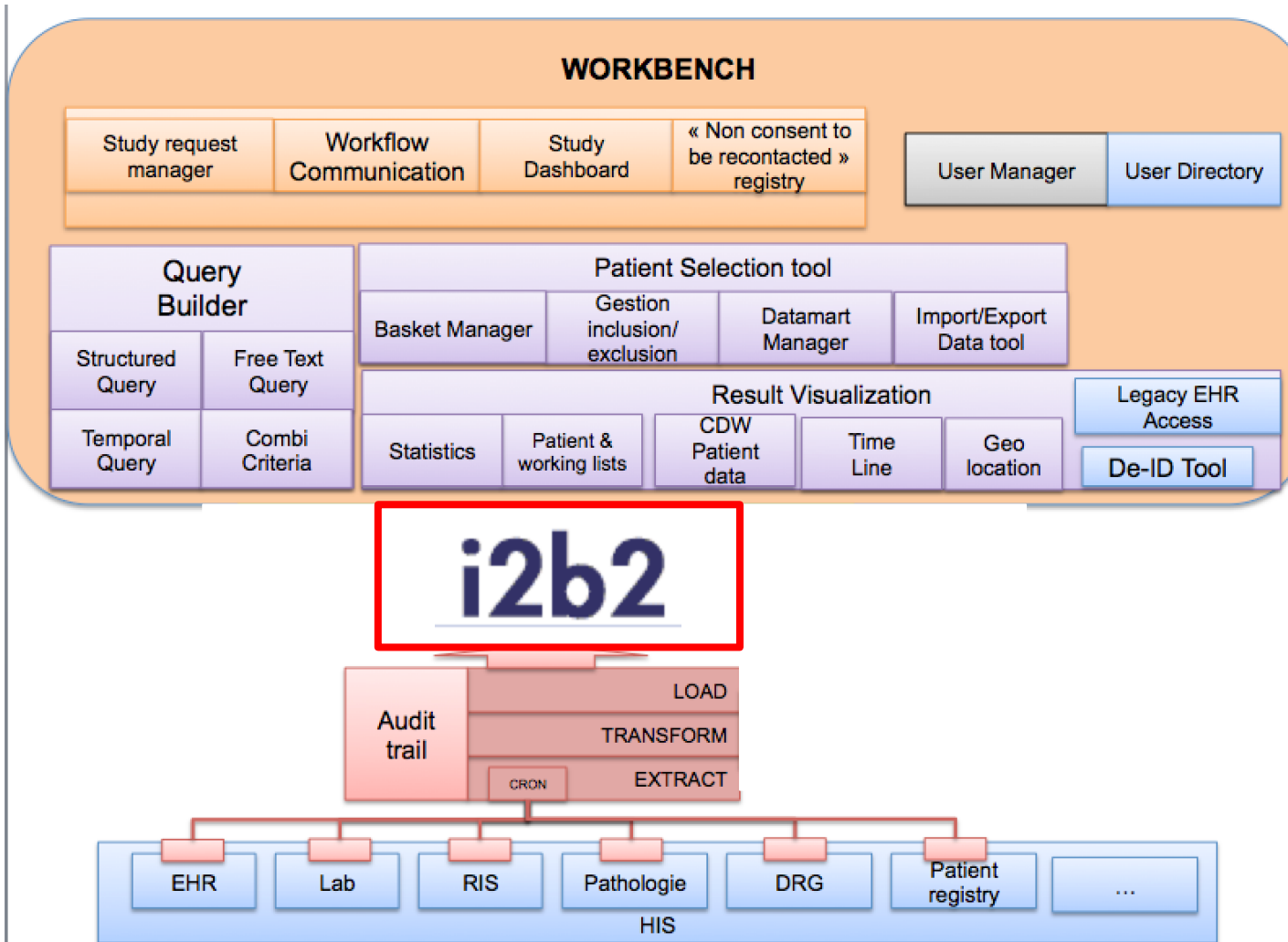+ Diagnosis : parkinson disease

Exclusion
- Diagnosis : hypertension

Roogle

Converging with I2B2

- I2B2 is becoming a standard in CDW
  - with a modular approach (Hive - cells)
  - supported by a large community of developers

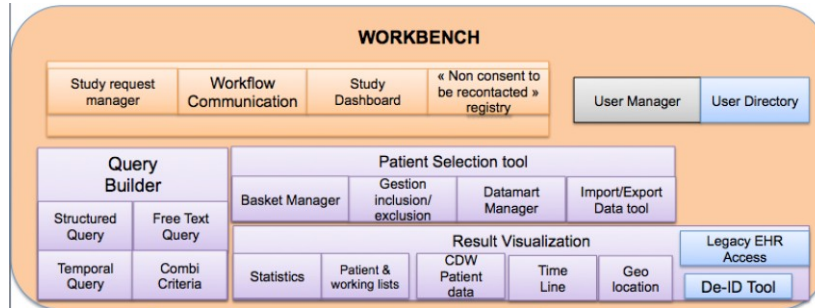- How to take benefit of I2B2 & Roogle ?
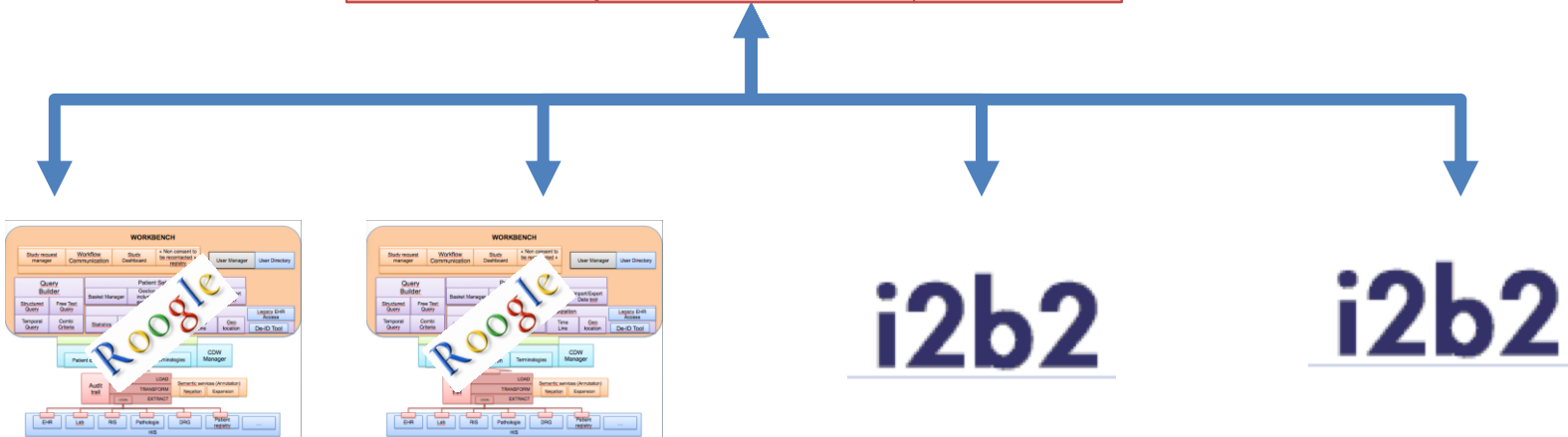
Scenario 1
Roogle as workbench on I2B2 DATABASE
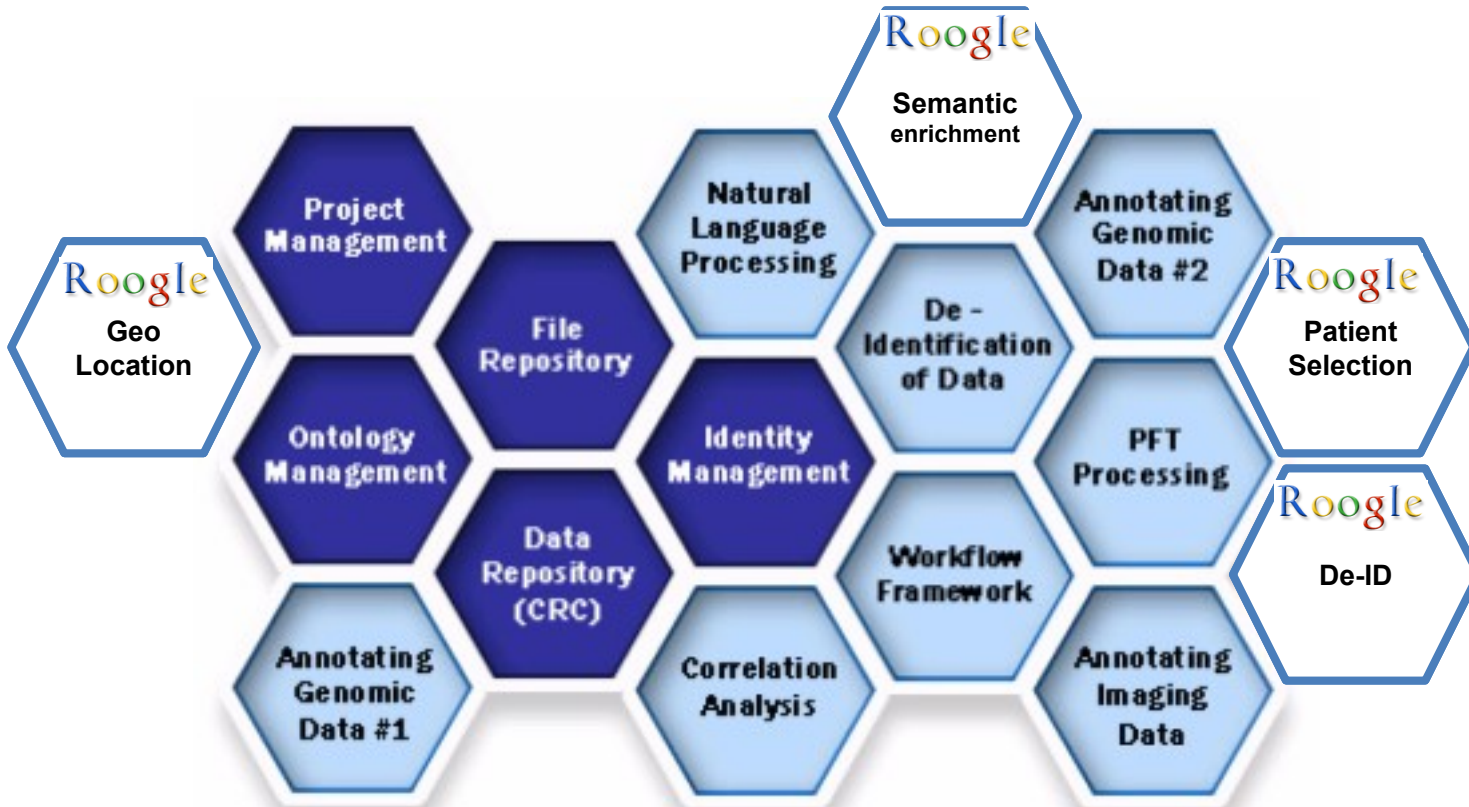
Scenario 2

Roogle as Shrine and I2B2 as an endpoint
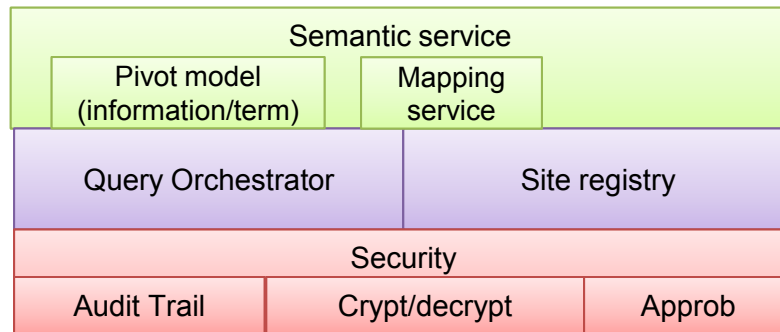
Scenario 3

- Roogle modules as re-usable components in the I2B2 Hive.

Conclusion

- Roogle is an information retrieval system for medical research

- Currently used in 3 academic hospitals

- Planned to be deployed in 20 cancer hospitals in France

- Roogle & I2B2 could have some point of converge with different strategies