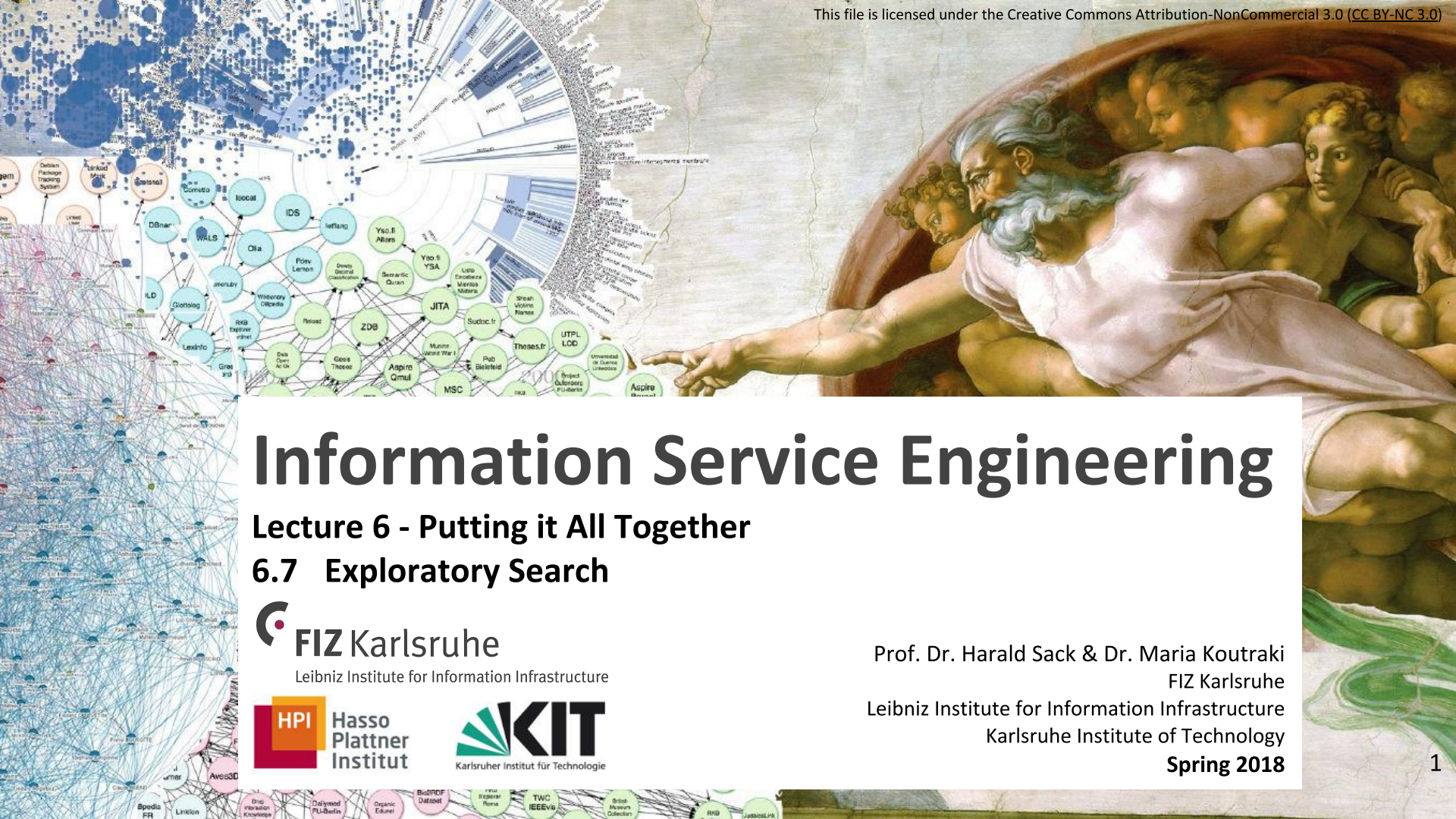




Information Service Engineering

Lecture 6 - Putting it All Together

6.7 Exploratory Search

 **FIZ Karlsruhe**

Leibniz Institute for Information Infrastructure

 **Hasso Plattner Institut**

 **KIT**
Karlsruher Institut für Technologie

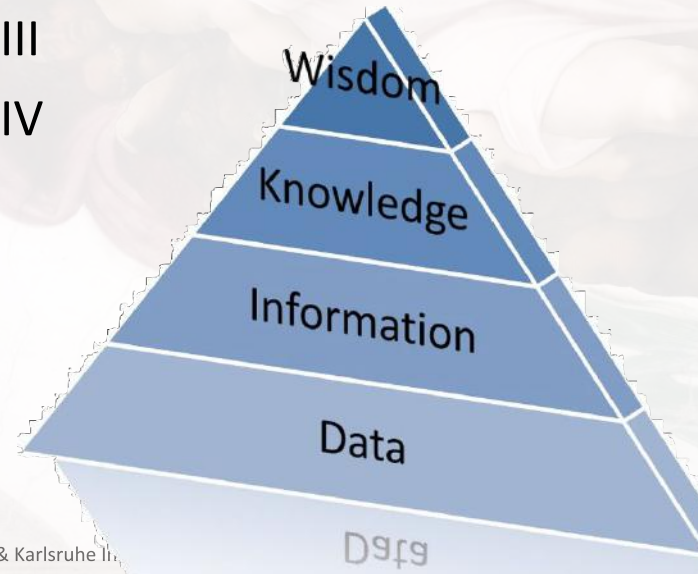
Prof. Dr. Harald Sack & Dr. Maria Koutraki
FIZ Karlsruhe

Leibniz Institute for Information Infrastructure
Karlsruhe Institute of Technology
Spring 2018

Information Service Engineering

Lecture 6: Putting it All Together

- 6.1 Linked Data Programming
- 6.2 Knowledge Mining and Information Extraction
- 6.3 Knowledge Mining and Information Extraction II
- 6.4 Knowledge Mining and Information Extraction III
- 6.5 Knowledge Mining and Information Extraction IV
- 6.6 Semantic Search
- 6.7 Exploratory Search**





Retrieval vs. Exploration

The Retrieval Problem

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search

- **Retrieval Problem:**
 - you are looking for **something specific**
i.e. you know what you are looking for
- How to **specify your search request?**
 - e.g. for a (specific) book:
author name, title, etc.
- Often you are using
 - (unique) identifier
 - descriptive metadata

Author: Jules Verne

Title: From the Earth to the Moon



Retrieval vs. Exploration

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search



V E R N E, Jules:
From the Earth to the Moon, Direct in
97 Hours 20 Minutes and a Trip Round It,
Sampson Low, Marston & Company,
London (1873),
viii, 323 p. plates.

GRC C.194.a.659, 12516.g.20

Retrieval vs. Exploration

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search



- Find another („comparable“) book, (that will be of interest for me...)
- Find books of the same or of related topics
- How did the author / the topic develop over time?
- What else would I like to read?
- ...



Exploratory Search



**...and intelligent
recommendations**

**Traditional Libraries
enable Exploratory Search**

Exploratory Search

represents the activities carried out by searchers who are:

- unfamiliar with the domain of their goal (i.e. need to learn about the topic in order to understand how to achieve their goal)
- unsure about the ways to achieve their goals (either the technology or the process)
- or even unsure about their goals in the first place.

- ...**Browsing** instead of **Searching**
- ...to find something by chance, i.e. **Serendipity**
- ...to get an **overview**
- ...enable content based **navigation**

Exploratory Search and Recommendations

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search

e.g. via refer.cx WordPress Plugin at <http://scih.org/>

refer

Mao Zedong	Edgar Allan Poe	Victor Hugo
Jorge Luis Borges	Charles Dickens	Ernest Shackleton
Jean-Jacques Rousseau	Virginia Woolf	William S. Burroughs
Wernher von Braun		
Martin Heidegger	Sigmund Freud	Georg Wilhelm Friedrich Hegel
Friedrich Nietzsche	Stephen King	Karl Marx
Bob Dylan		

Nohant-Vic	Pontoise	Crowborough
Gironde	Cherbourg-Octeville	
Bourbon	French Third	Amiens
Mines Gerais	Juazeiro	Nantes
Verona	Bournemouth	
Oslo	Kent	New York

The Mysterious	Western fiction	Philology
High fantasy	Popular science	Academia
Post-structuralism	Pancreatic cancer	American Academy of Arts
Nothing	Structuralism	Being and Nothingness
The Silmarillion	Journalist	Literary theory
Historical fiction	Americans	Soviet space program
Aerospace engineering	Existentialism	Poles

Relation Browser

Timeline

1888

1911

1917

1910

1912

1867

1997

January 30

2 Recommended Articles:

#1 Edward Walter Maunder and the Sunspots

#2 Ferdinand Freiherr von Richthofen and the Silk Road

Jules Verne



Jules Gabriel Verne (French: [ʒyl vɛʁn]; 8 February 1828 – 24 March 1905) was a French novelist, poet, and playwright best known for his adventure novels and his profound influence on the literary genre of science fiction. Born to bourgeois parents in the seaport of Nantes, Verne was trained to follow in his father's footsteps as a lawyer, but quit the profession early in life to write for magazines and the stage. His collaboration with the publisher Pierre-Jules Hetzel led to the creation of the Voyages Extraordinaires, a widely popular series of scrupulously researched adventure novels including Journey to the Center of the Earth, Twenty Thousand Leagues Under the Sea, and Around the World in Eighty Days. Verne is generally considered a major literary

DBpedia: Jules Verne

Exploratory Search via Linked Data

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search



[http://dbpedia.org/resource/From the Earth to the Moon](http://dbpedia.org/resource/From_the_Earth_to_the_Moon)



Browse using -

Formats -

Faceted Browser

Sparql Endpoint

About: From the Earth to the Moon

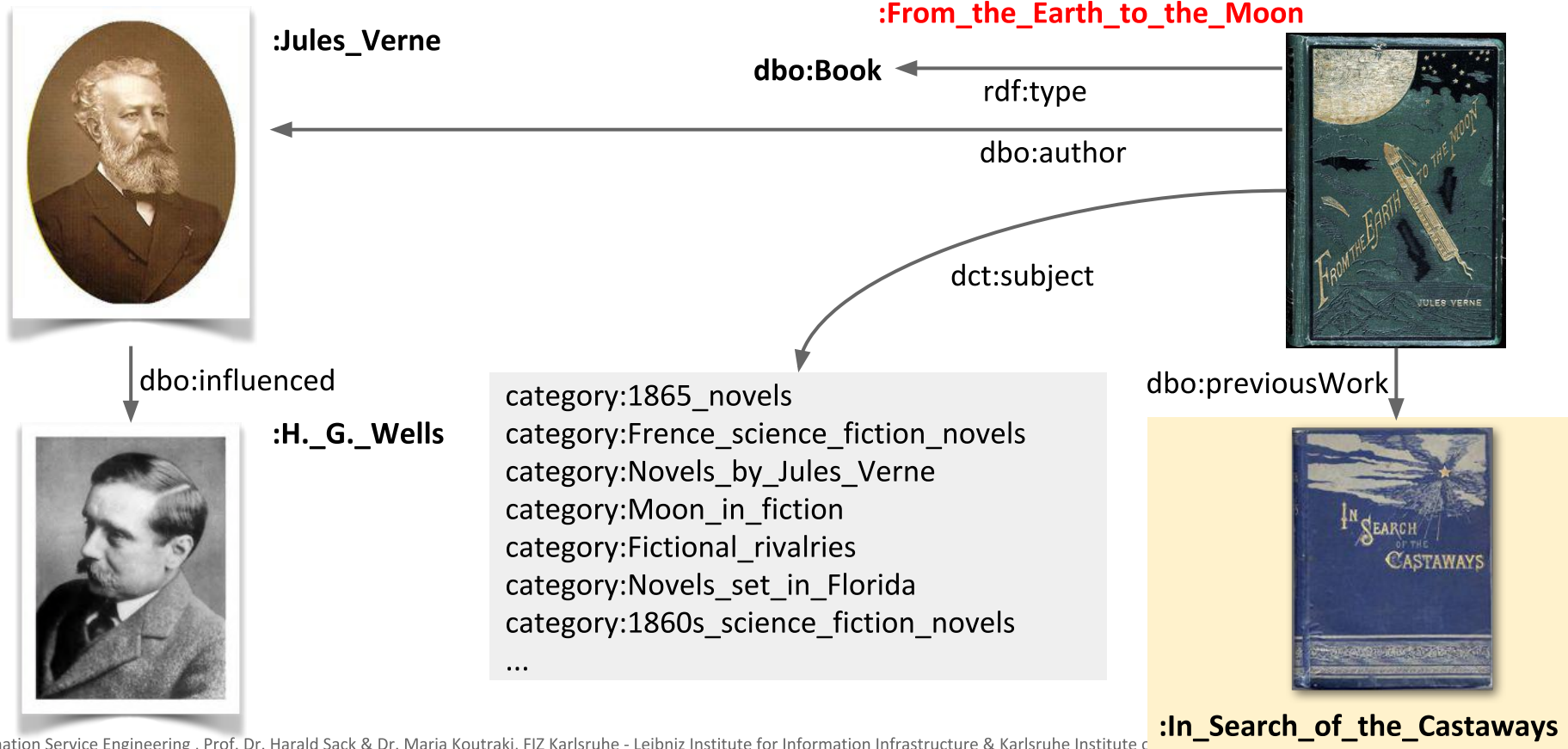
An Entity of Type : work, from Named Graph : <http://dbpedia.org>, within Data Space : dbpedia.org

From the Earth to the Moon (French: De la terre à la lune) is an 1865 novel by Jules Verne.

Property	Value
dbo:abstract	- Von der Erde zum Mond ist ein Roman des französischen Autors Jules Verne. Der Roman wurde erstmals 1865 unter dem französischen Titel De la Terre à la Lune von dem Verleger Pierre-Jules Hetzel veröffentlicht. Die erste deutschsprachige Ausgabe erschien 1873 unter dem Titel Von der Erde zum Mond. Der englische Titel des Romans lautet From the Earth to the Moon. Es handelt sich um ein frühes Werk des Science-Fiction-Genres, das die Mondfahrt um etwa hundert Jahre vorwegnimmt. Allerdings geht es hier vor allem noch um die Vorbereitung des Abenteuers. Der Roman Reise um den Mond (Autour de la Lune) von 1870 setzte die Geschichte fort. ^(de) - From the Earth to the Moon (French: De la terre à la lune) is an 1865 novel by Jules Verne. It tells the story of the Baltimore Gun Club, a post-American Civil War society of weapons enthusiasts, and their attempts to build an enormous sky-facing Columbiad space gun and launch three people—the Gun Club's president, his Philadelphian armor-making rival, and a French poet—in a projectile with the goal of a moon landing. The story is also notable in that Verne attempted to do some rough calculations as to the requirements for the cannon and, considering the comparative lack of any data on the subject at the time, some of his figures are surprisingly close to reality. However, his scenario turned out to be impractical for safe manned space travel since a much longer muzzle would have been required to reach escape velocity while limiting acceleration to survivable limits for the passengers. The character of Michel Ardan, the French member of the party in the novel, was inspired by the real-life photographer Félix Nadar. ^(en)
dbo:author	dbr:Jules_Verne
dbo:illustrator	dbr:Henri_de_Montaut
dbo:literaryGenre	dbr:Science_fiction
dbo:mediaType	dbr:Hardcover
dbo:publisher	dbr:Pierre-Jules_Hetzel
dbo:series	dbr:Voyages_extraordinaires
dbo:thumbnail	wiki-commons:Special:FilePath/From_the_Earth_to_the_Moon_Jules_Verne.jpg?width=300

Exploratory Search via Linked Data

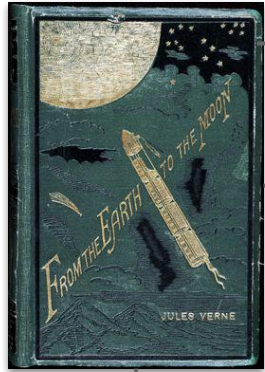
Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search



Exploratory Search via Linked Data

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search

:From_the_Earth_to_the_Moon

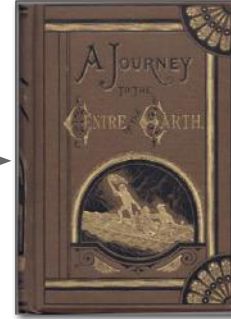


rdf:type

dbo:Book

rdf:type

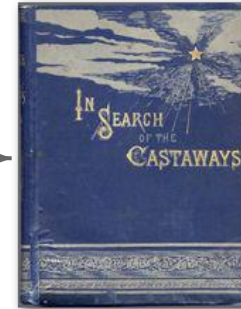
dbo:subsequentWork



:A_Journey_to_the_Center_of_the_Earth

rdf:type

dbo:previousWork

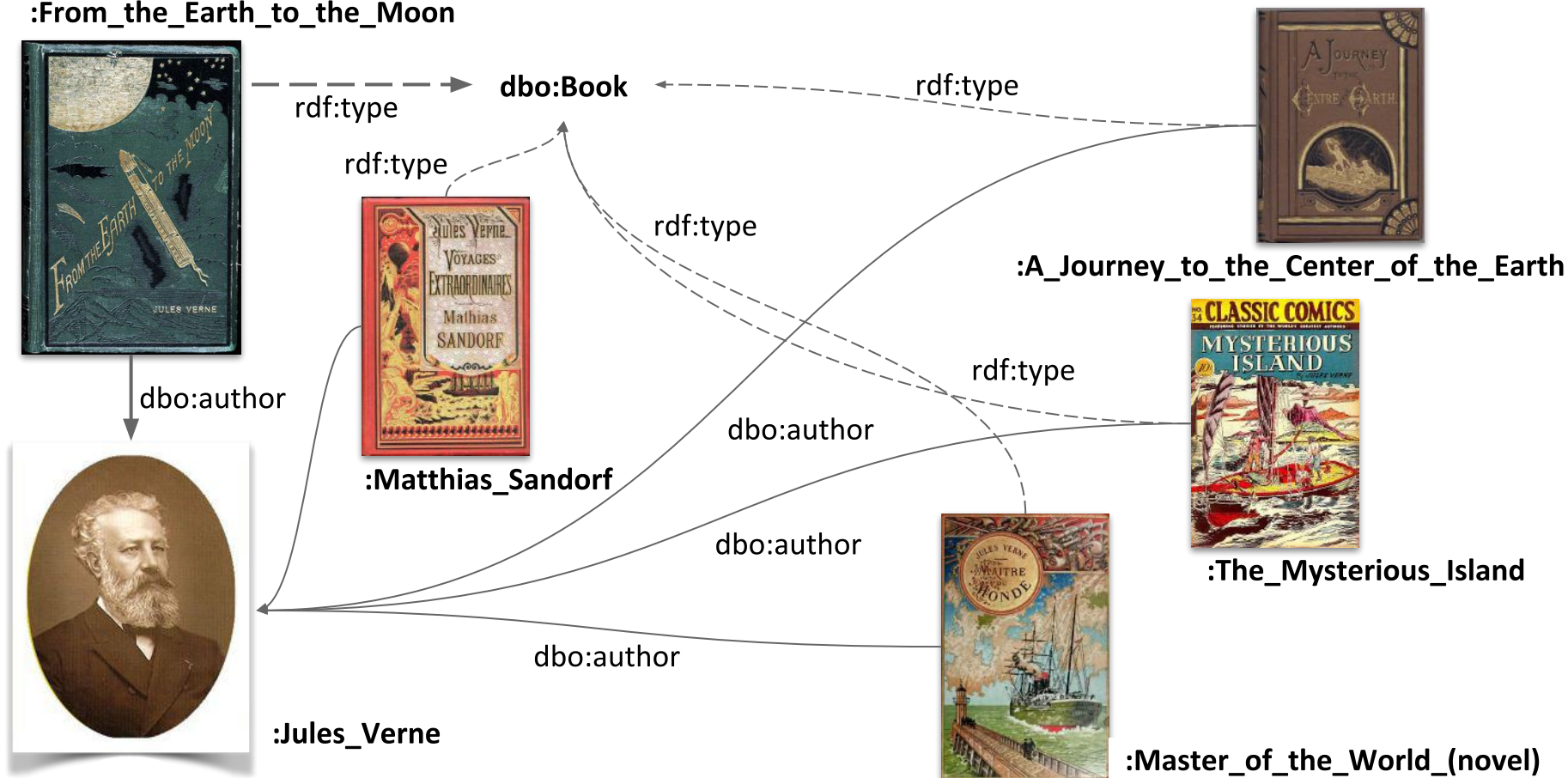


:In_Search_of_the_Castaways

Exploratory Search via Linked Data

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search

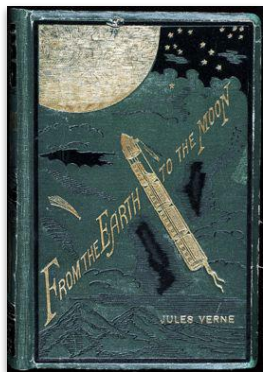
:From_the_Earth_to_the_Moon



Exploratory Search via Linked Data

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search

:From_the_Earth_to_the_Moon



rdf:type

dbo:Book

rdf:type



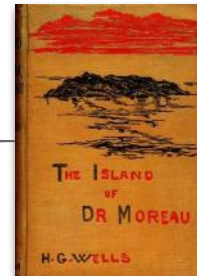
:The_Invisible_Man

rdf:type

dbo:author

rdf:type

dbo:author



:The_Island_of_Doctor_Moreau

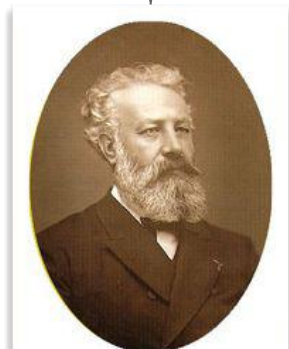
dbo:author



:The_War_of_the_Worlds

dbo:author

dbo:Writer



:Jules_Verne

dbo:influenced



:H._G._Wells

From Exploration to Recommendation

Information Service Engineering - Lecture 6 Putting it All Together - 6.7 Exploratory Search

- **Exploratory Search** represents the activities carried out by searchers who are either:
 - **unfamiliar with the domain** of their goal (i.e. need to learn about the topic in order to understand how to achieve their goal)
 - **unsure about the ways** to achieve their goals (either the technology or the process)
 - or even **unsure about their goals** in the first place.
- **Recommender Systems** seek to predict the preference a user would give to an item

Now, which movie should I watch next?



...and please ...don't make boring suggestions!

Thank you very much for
your Attention!

17

Picture References:

- P.3,7,8: Carl Spitzweg, The Bopokworm, 1850, https://commons.wikimedia.org/wiki/File:Carl_Spitzweg_021.jpg
- P.5,6: Dr. Markus Gossler, The subject catalogue ("Schlagwortkatalog") of the University Library of Graz. The card shown refers to a text by Hans Schleimer who made up the rules for this catalogue., <https://commons.wikimedia.org/wiki/File:Schlagwortkatalog.jpg>
- P.10: Jules Verne, From the Earth to the Moon, https://commons.wikimedia.org/wiki/File:From_the_Earth_to_the_Moon_Jules_Verne.jpg
- P.16: Frame from the only surviving hand-colored print of Georges Méliès's 1902 film Le voyage dans la lune. https://commons.wikimedia.org/wiki/File:Melies_color_Voyage_dans_la_lune.jpg