

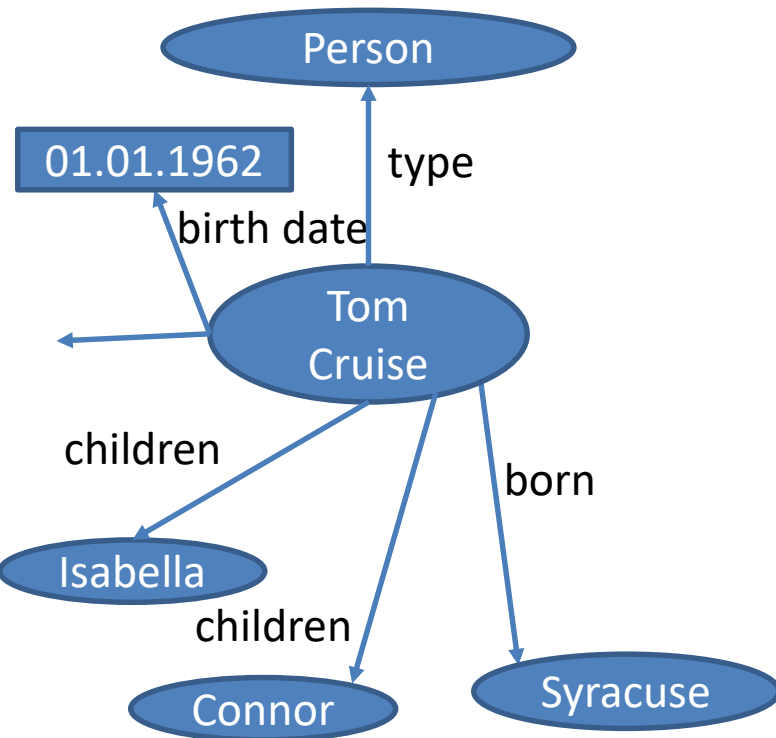
Deep Knowledge Fusion with MELT

Team Project FSS 2023



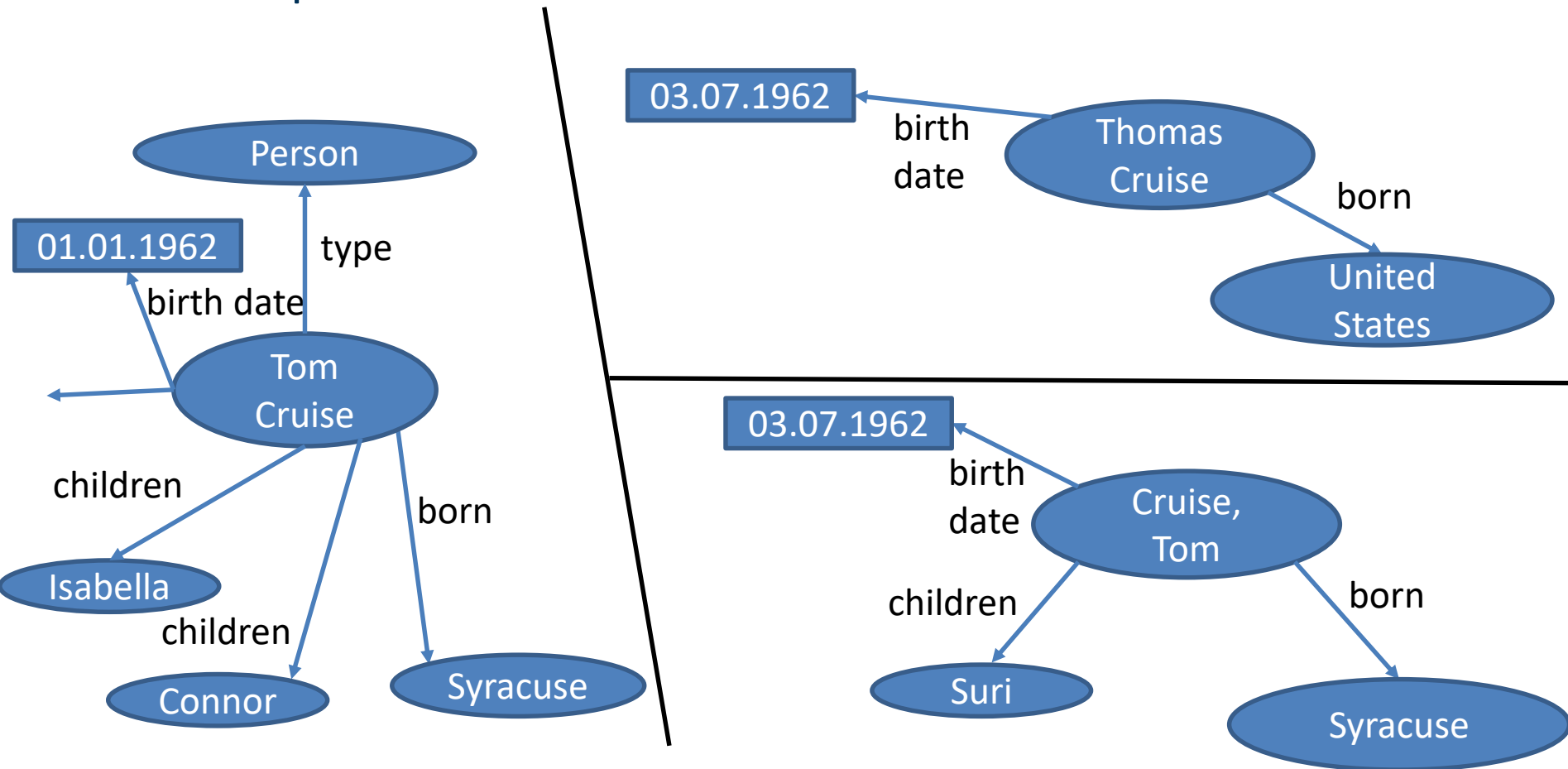
What is a Knowledge Graph?

- describes entities and their interrelations, organized in a graph



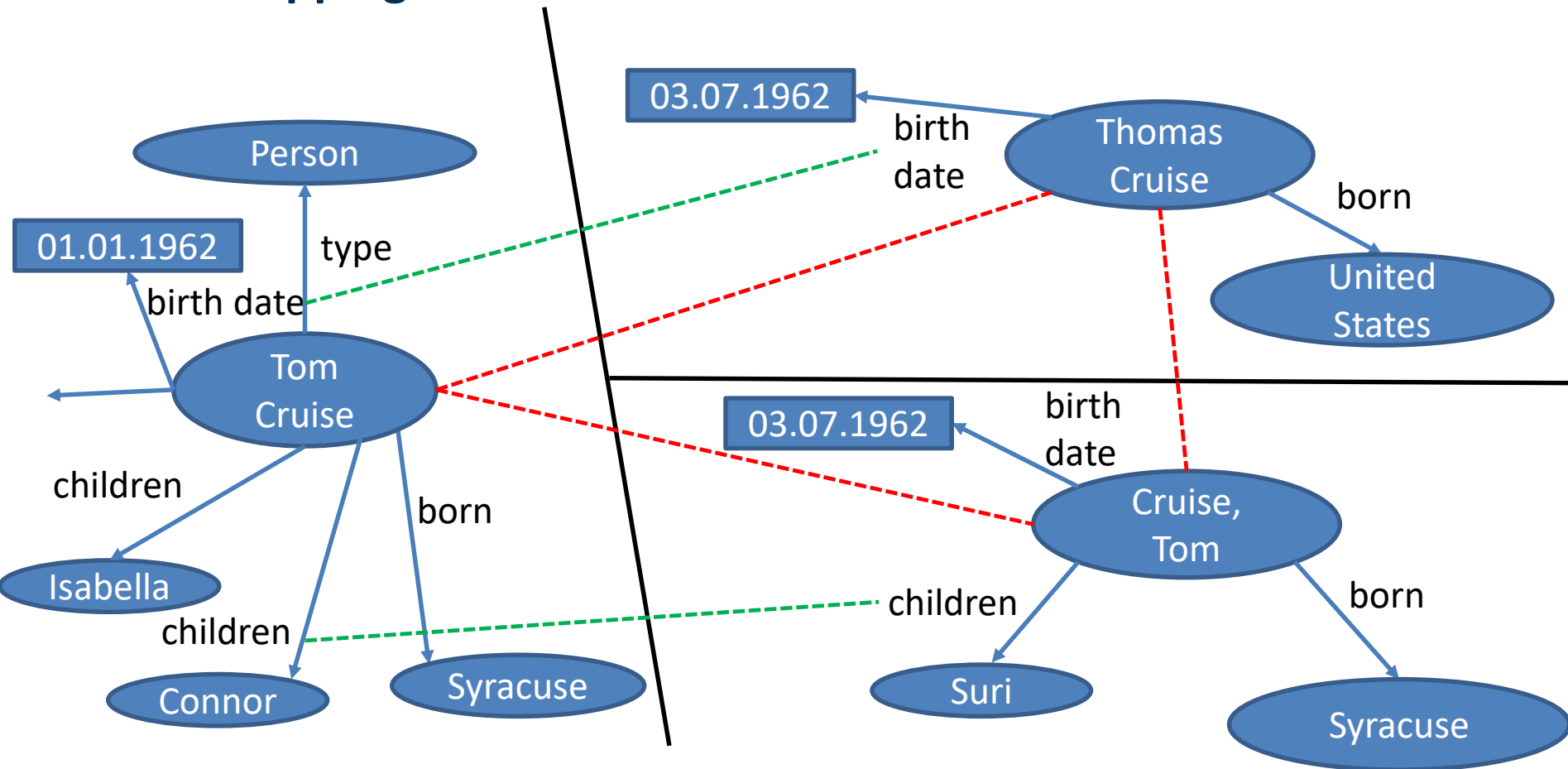
Multiple Knowledge Graphs

- multiple KGs can contain information about same entities



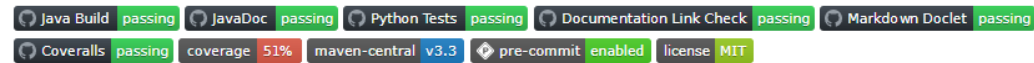
Multiple Knowledge Graphs

- a **mapping** is needed



Multiple Knowledge Graphs

MELT - Matching EvaLuation Toolkit



A powerful framework for ontology, instance, and knowledge graph matching.

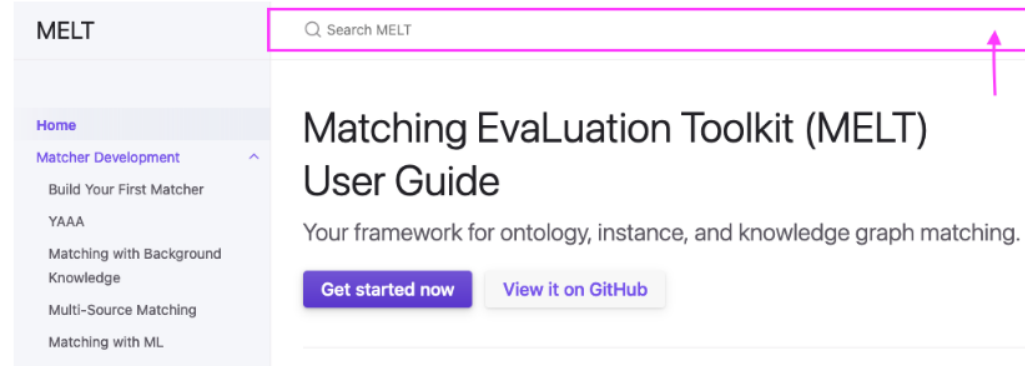
MELT is a powerful maven framework for developing, tuning, evaluating, and packaging ontology matching systems. It is optimized to be used in [OAEI](#) campaigns and allows to submit matchers to the SEALS and HOBBIT evaluation platform easily. MELT can also be used for non OAEI-related matching tasks and evaluation.

Found a bug? Don't hesitate to [open an issue](#).

User Guide

All functionality is documented in our [User Guide](#).

Note that you can also easily search the entire user guide:

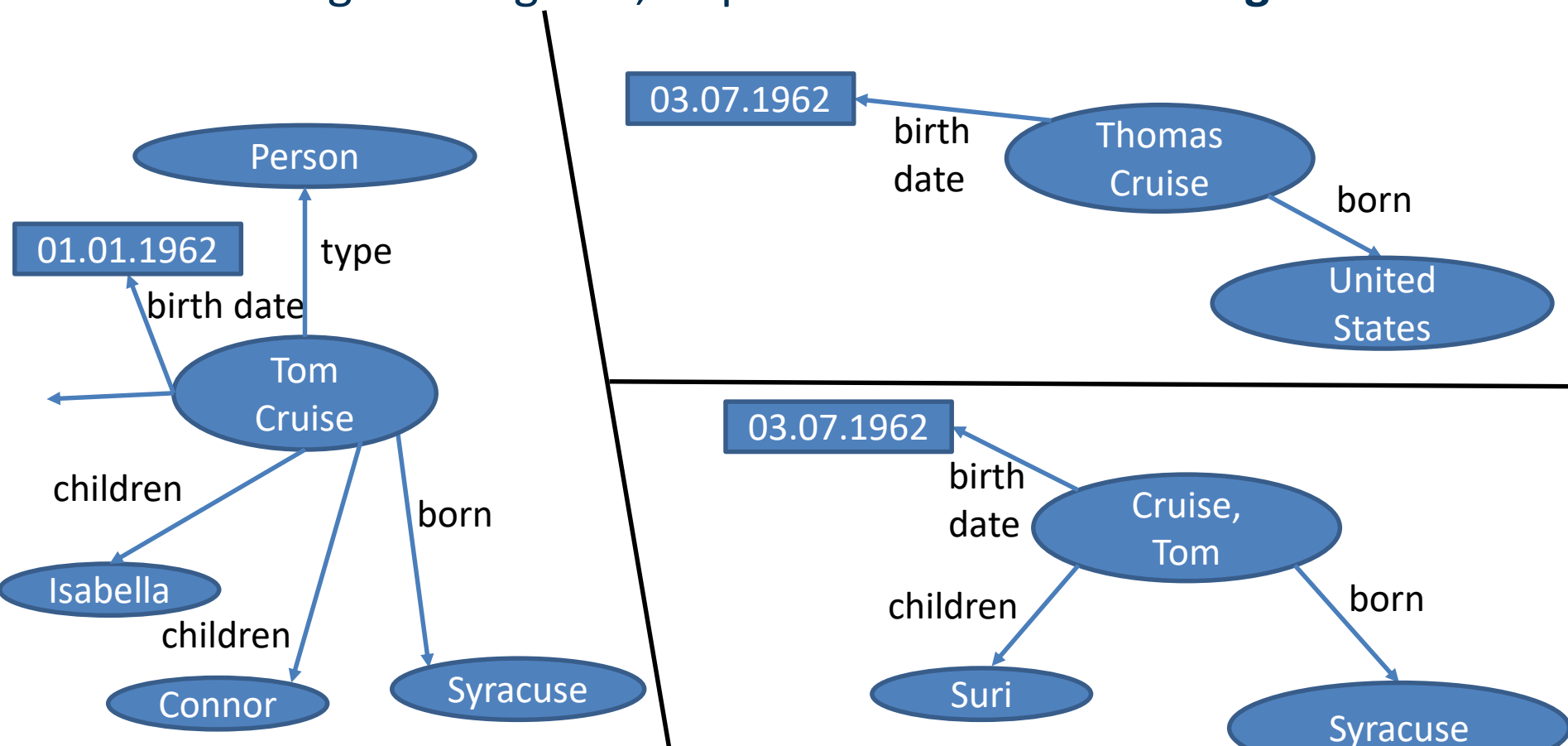


JavaDoc

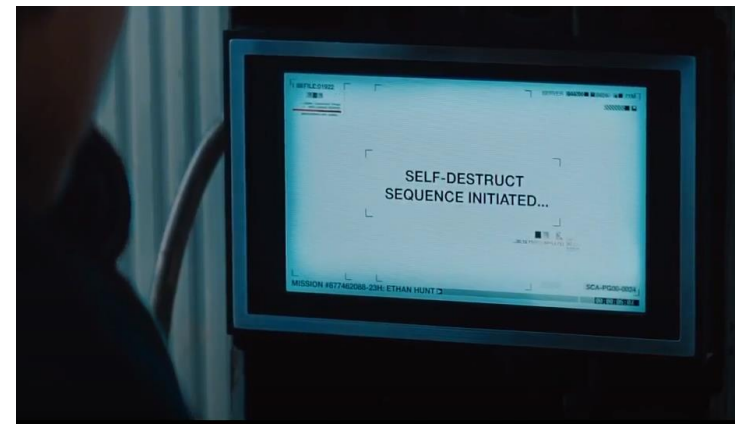
- [Latest Commit / Developer Version](#)
- [Releases](#)

Fusion

- creating one huge KG, requires **fusion of knowledge**



Your mission, should you choose to accept it



- analyze which properties are **functional**
 - should have only one value e.g. birth date
- implement different **fusion approaches**
 - non-functional: union (merge all information)
 - functional
 - majority voting, clustered voting etc
 - numerical values
 - average, median
 - textual values
 - longest, shortest string
 - selection based on meta data (most recent, trust value of KG etc)

Mission Control



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You, the IMF Agents, should

- ...be a group of 3 students
 - also MMDS students
- ...have deep knowledge in Java programming (Jena), git, etc
- ...have already attended or attend *Semantic Web Technologies / Knowledge Graph*
- ...not be afraid of programming and big data



Questions?

