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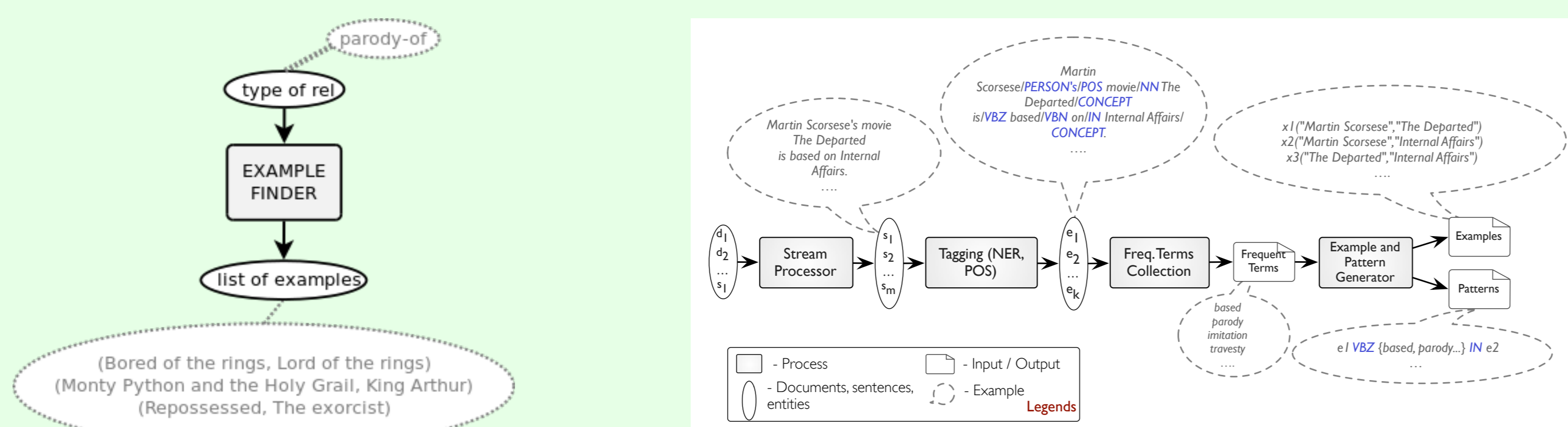
## Objectives of KIEV

- Knowledge and Information Extraction with Verification
- Large scale (ClueWeb dataset, with 50M documents)
- A sophisticated verification process to improve accuracy
- Linking of extracted entities to LOD
- Three use cases : discovery of the type of relationship, entity list search and example discovery

## Overview of KIEV

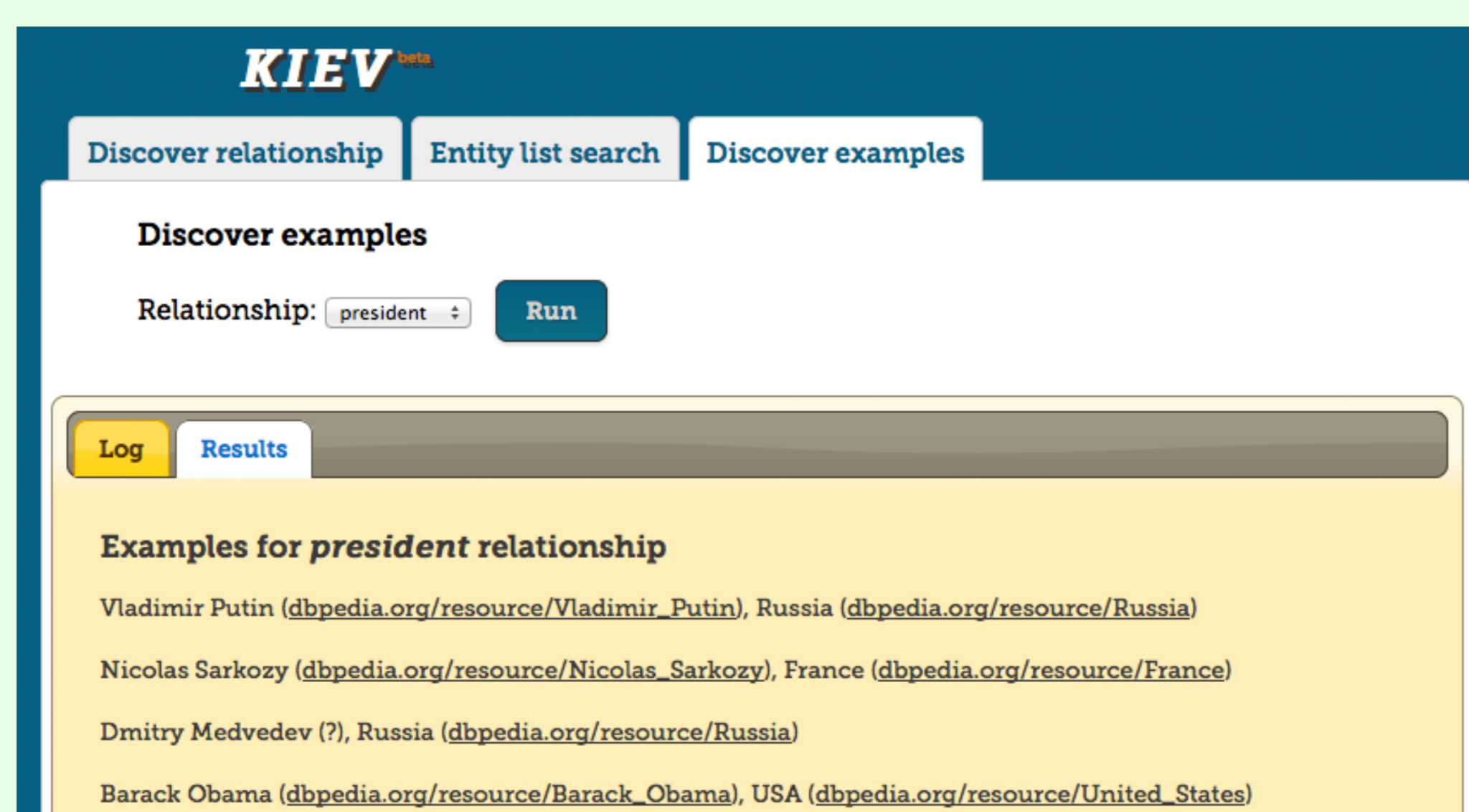
- Based on SPIDER<sup>1</sup>, which extracts relationships in a large scale context
- Extended with a verification step based on machine learning techniques and interlinking<sup>2</sup>
- Three main processes :
  - Discover examples** generates many examples by combining Named Entity Recognition, Part of Speech tagging and Pattern Recognition
  - Classification** verifies the type of relationship based on a machine learning classifier
  - Linking** checks extracted entities by linking them to LOD (DBpedia)

## Demo 1 : Discovering Examples

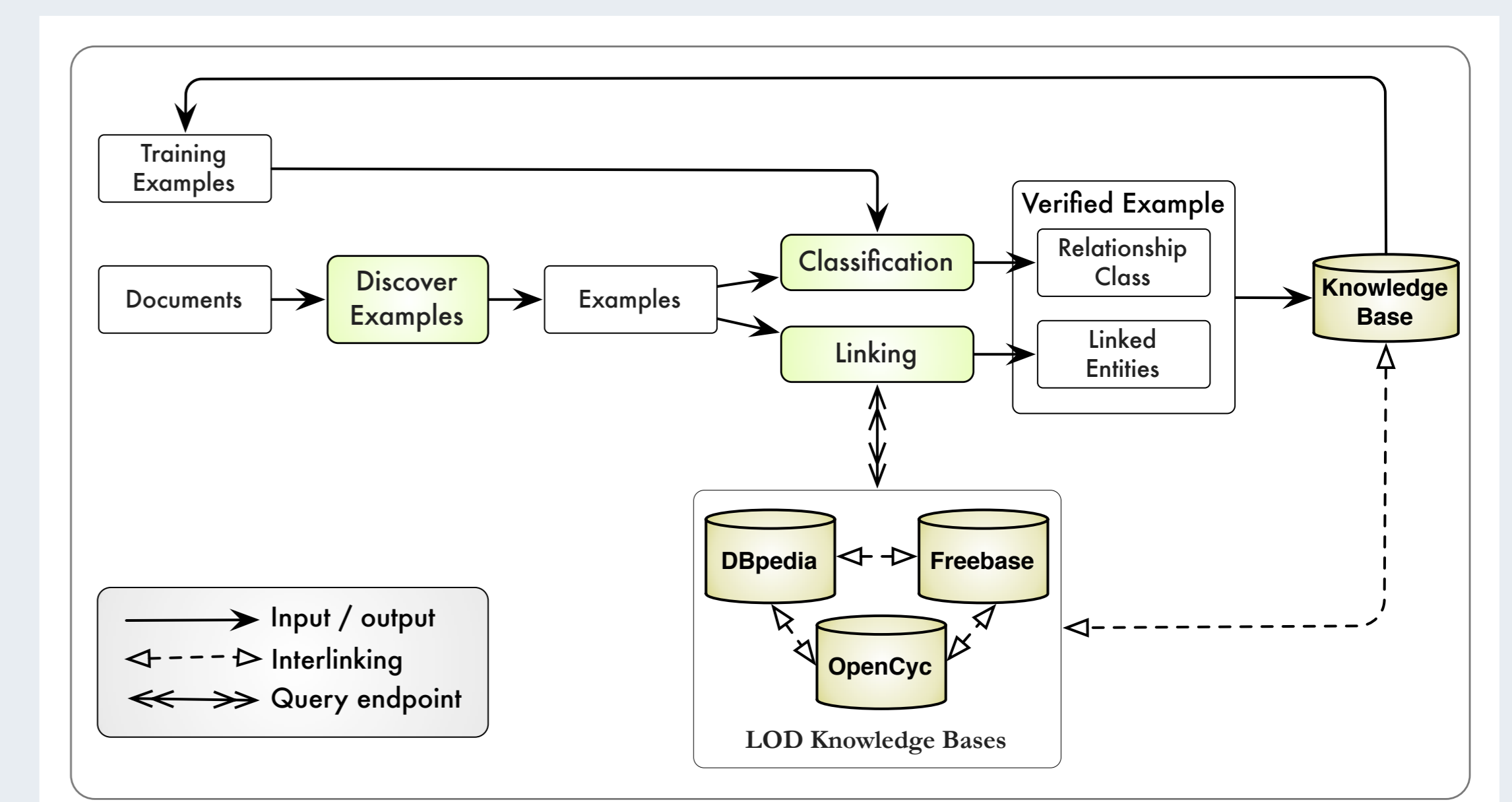


An example for use case 1

Workflow for Discovering Examples

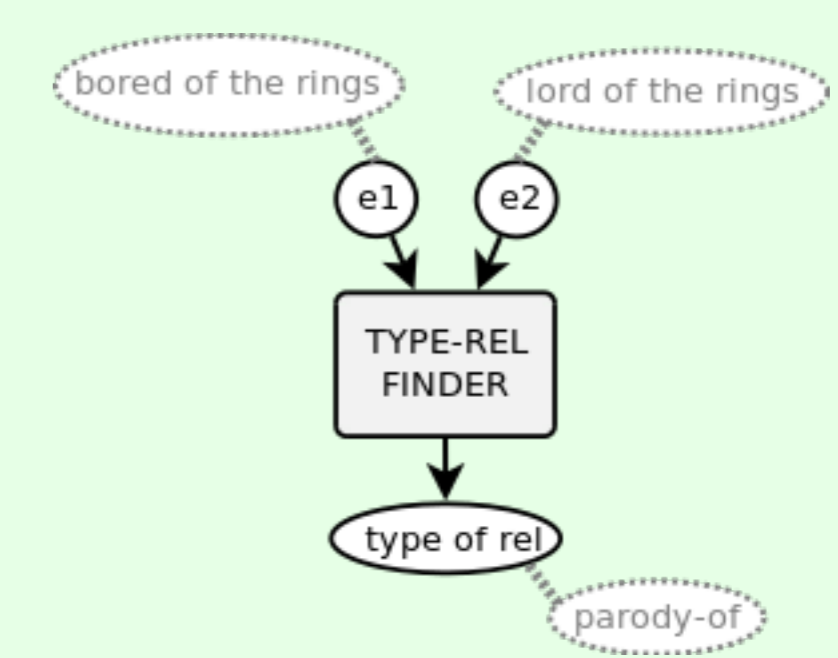


Discover Examples : the user only selects a type of relationship in the list, and KIEV returns all examples (pair of entities) which satisfy the type of relationship

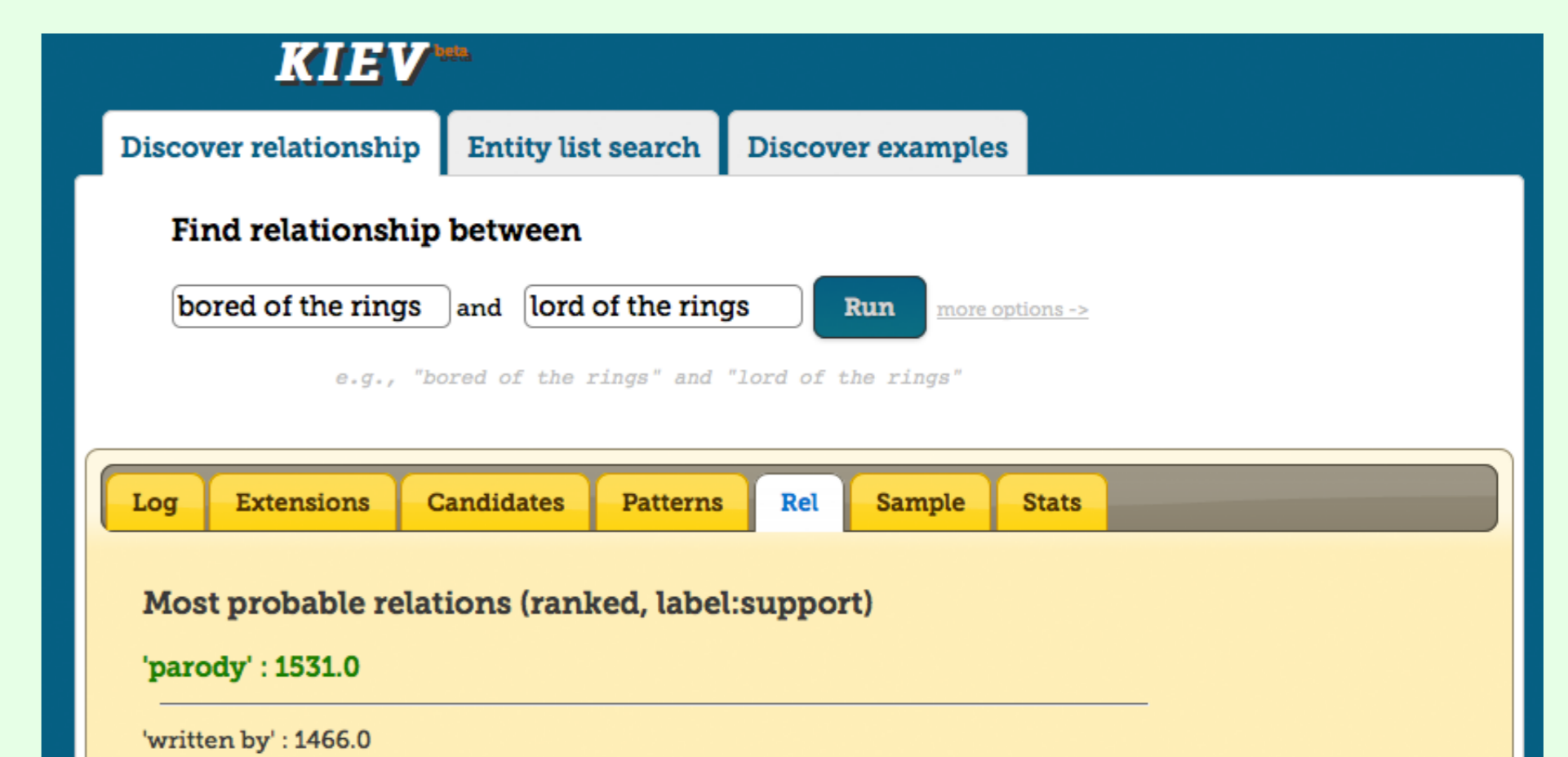


Overview of KIEV

## Demo 3 : Discovering the Type of Relation

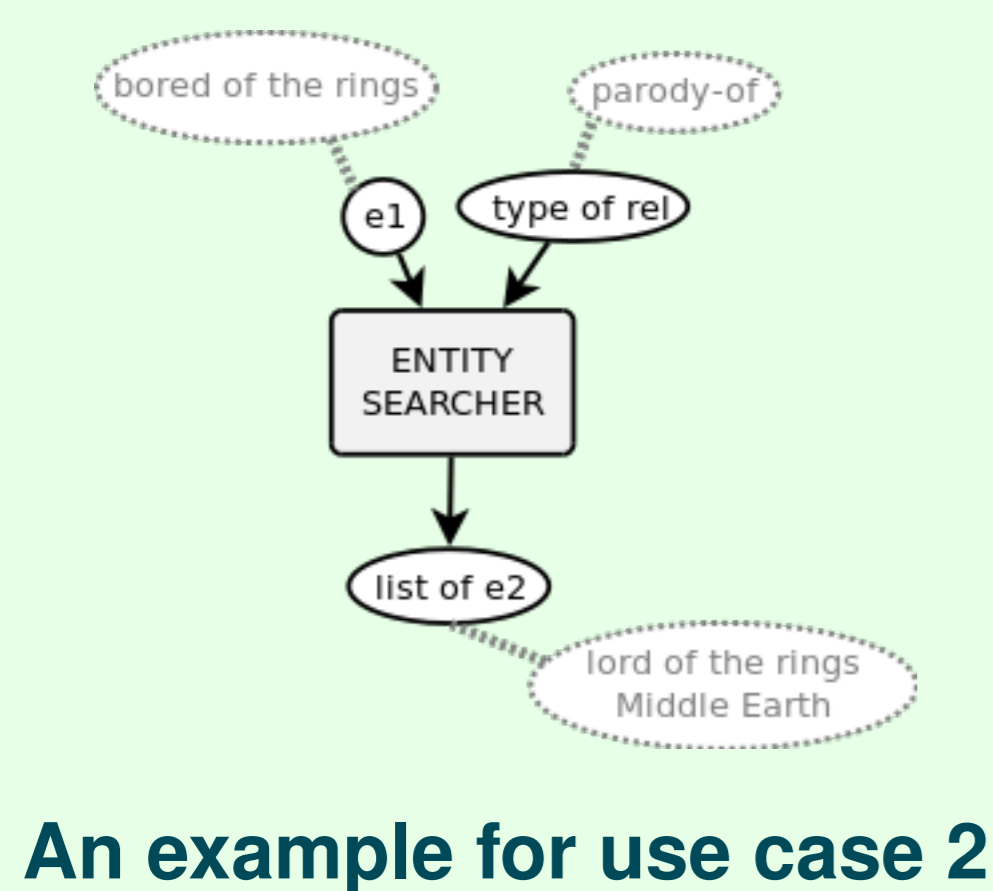


An example for use case 3

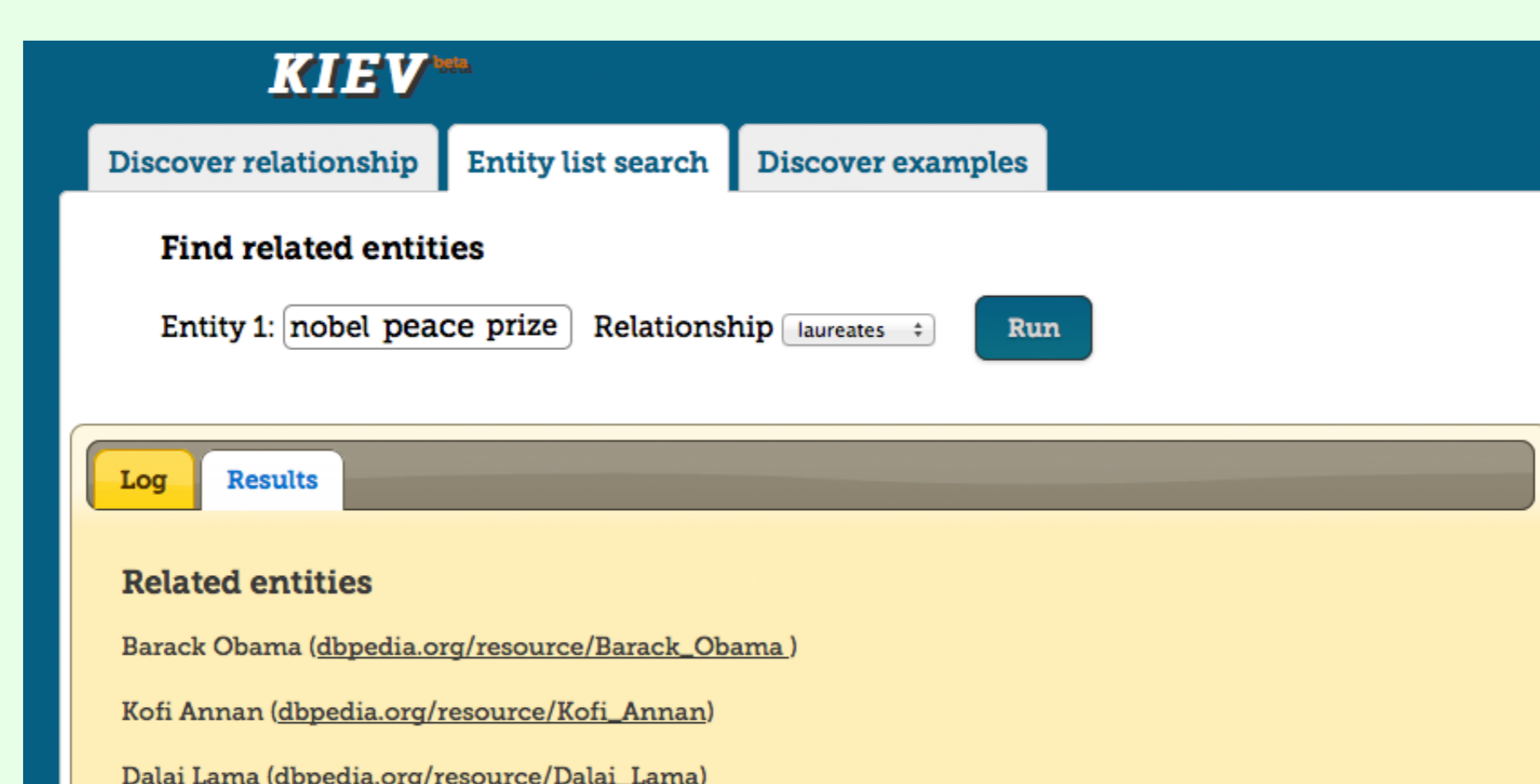


Discovering the Type of Relation : the labels “bored of the rings” and “lord of the rings” are provided by the user. The type(s) of relationship are then displayed according to a support score.

## Demo 2 : Entity List Search



An example for use case 2



Entity List Search : the user provides an entity and selects a type of relationship. KIEV outputs the possible values for the second entity, which have been verified by linking to a LOD knowledge base.

1. N. Takhirov, F. Duchateau, and T. Aalberg. *An evidence-based verification approach to extract entities for knowledge base population*. In Proceedings of ISWC, pages 575–590. Springer, 2012.

2. N. Takhirov, F. Duchateau, T. Aalberg, and I. Sølberg. *An Integrated Approach for Large-Scale Relation Extraction from the Web*. In Proceedings of APWeb, pages 163–175. Springer, 2013.

