

# Conversational Exploratory Search via Interactive Storytelling

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# Conversational AI

- What is the ultimate answer to life, the universe, and everything?



Garth Jennings, Douglas Adams. The Hitchhiker's Guide to the Galaxy (2005)

# Narrative Intelligence

ability to craft, tell, understand, and respond affectively to stories



[https://www.flickr.com/photos/mt\\_hood\\_territory/6555198511](https://www.flickr.com/photos/mt_hood_territory/6555198511) CC BY 2.0



*An Old Man and his Grandson*, ca. 1490, by Domenico Ghirlandaio. Louvre, Paris.

Mark O. Riedl. Computational Narrative Intelligence: A Human-Centered Goal for Artificial Intelligence.  
CoRR abs/1602.06484 2016.

# Motivation

- 1. Asking a good (well-formulated) questions is not easy**
- 2. Question is part of the answer (reduces the search space)**
- 3. Do not expect simple answers to complex questions  
(beyond look-up queries)**

# Interactive Storytelling

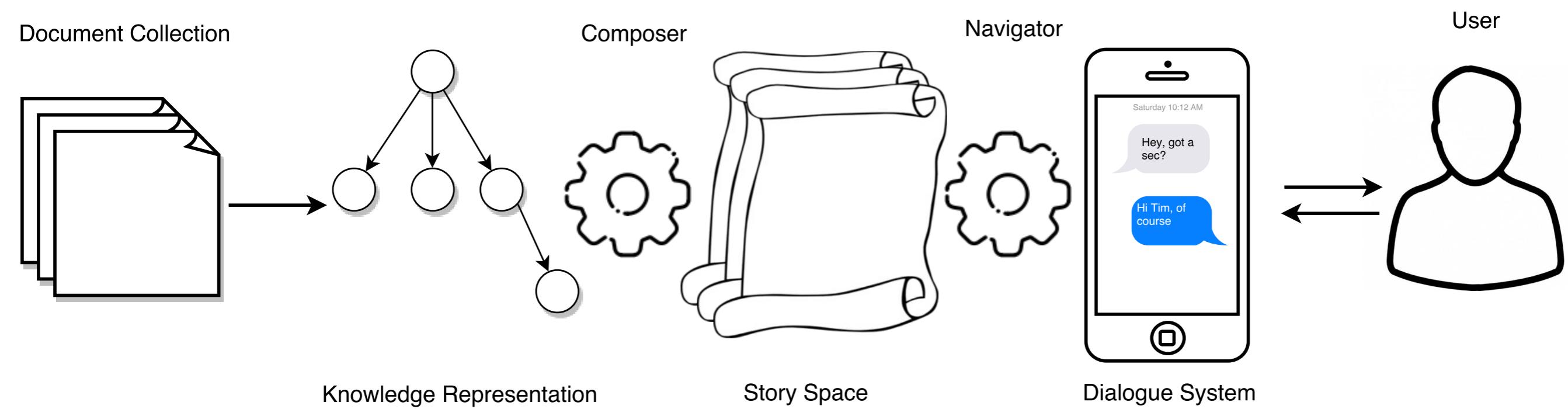
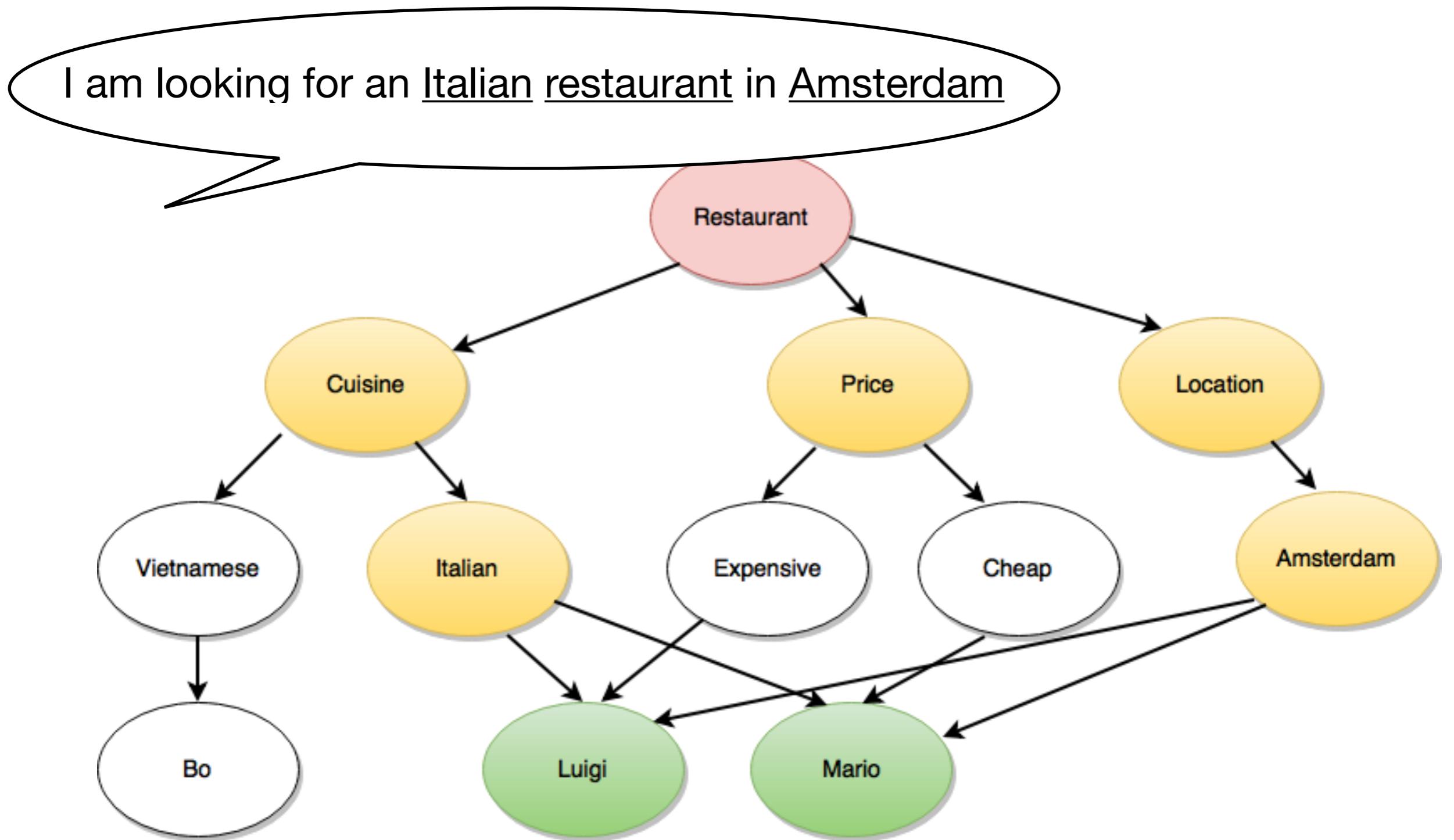
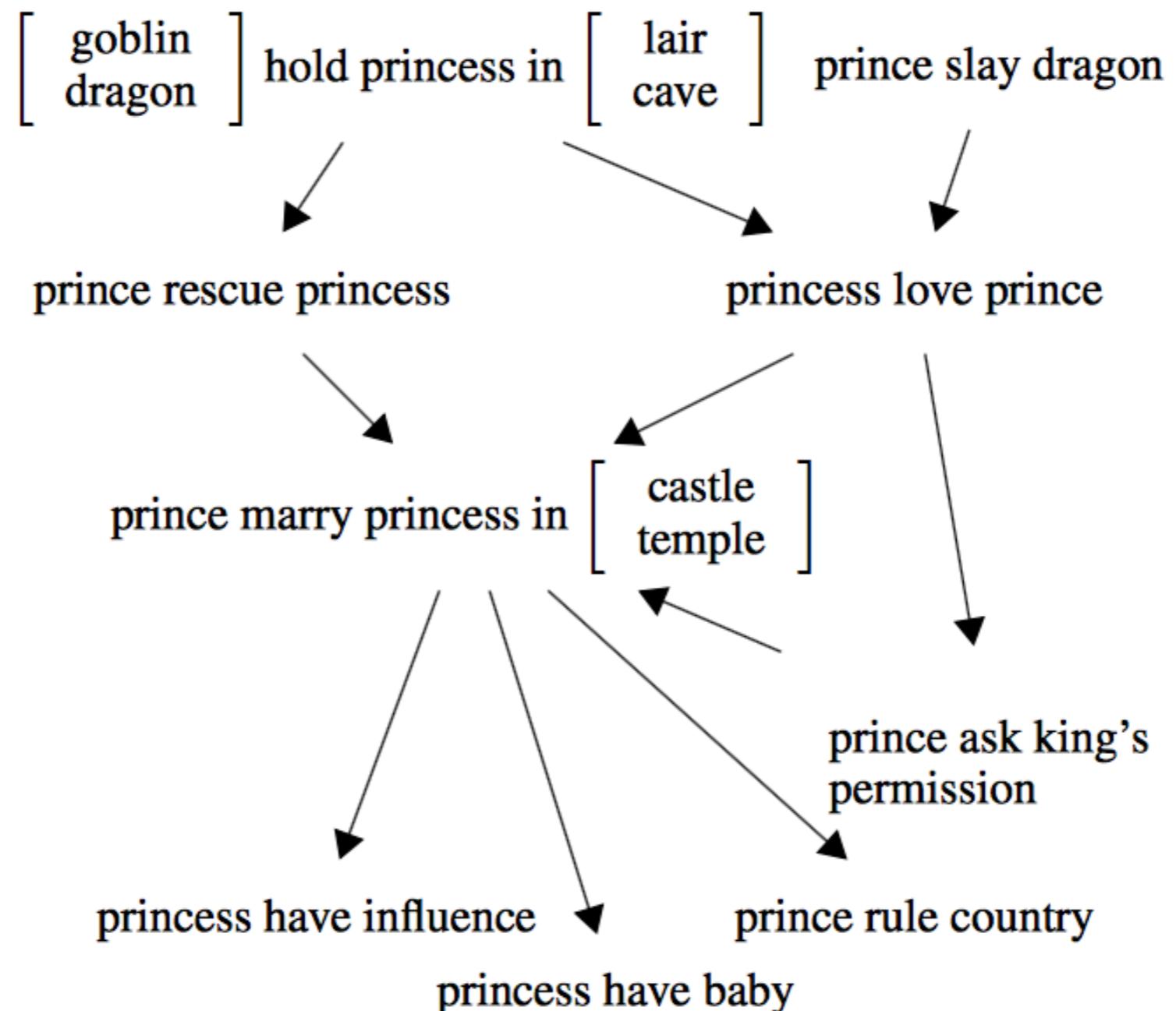


Figure. 1. Communicating knowledge via an interactive storytelling process

# Dialog State Tracking



# Story Generation



Neil Duncan McIntyre and Mirella Lapata. Plot Induction and Evolutionary Search for Story Generation. ACL 2010.

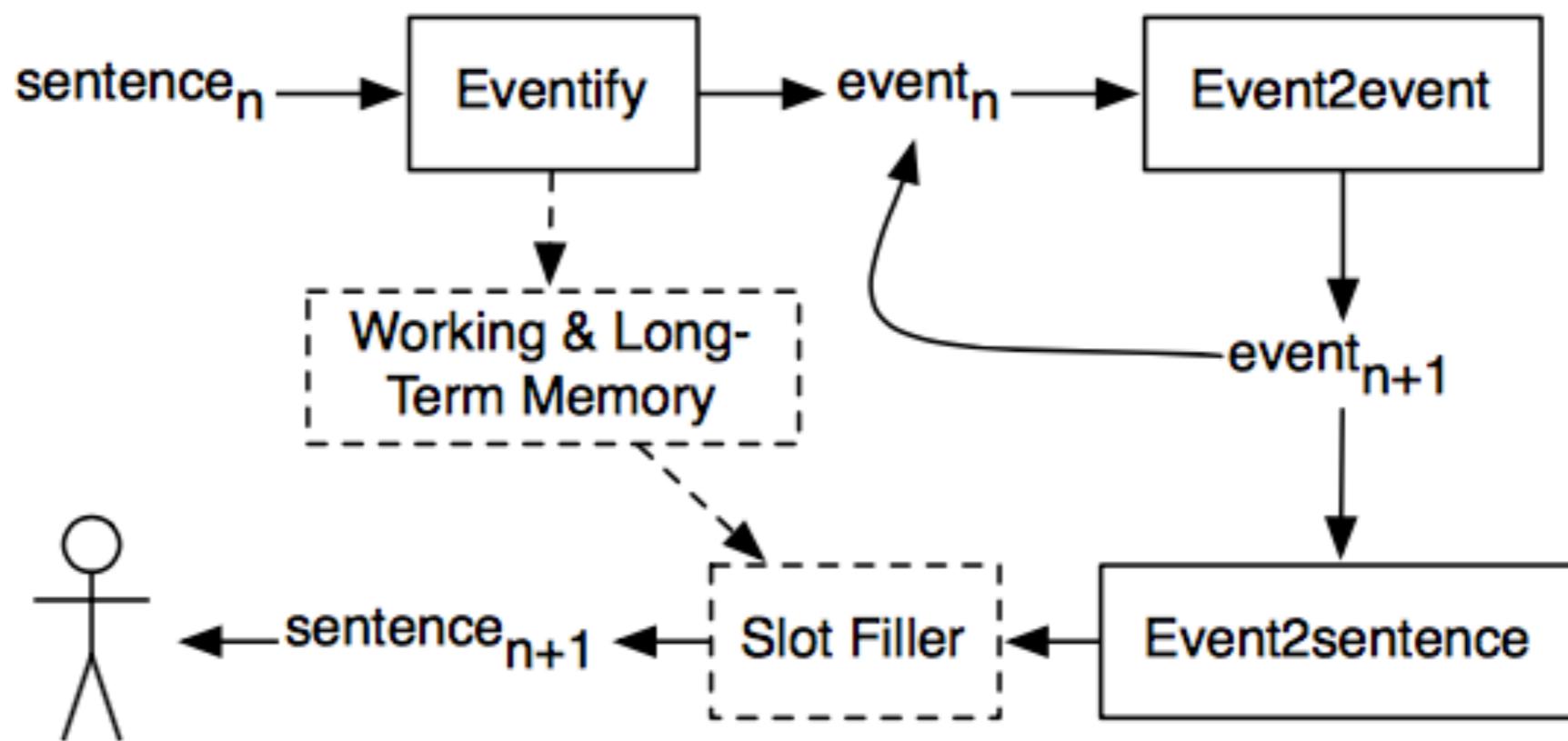
# Evaluation

437 stories from the Andrew Lang fairy tales

Rate the stories on a scale of 1 to 5 for:

- **fluency** (was the sentence grammatical?),
- **coherence** (does the story make sense overall?)
- **interest** (how interesting is the story?)

# Seq2Seq



Lara J. Martin, Prithviraj Ammanabrolu, William Hancock, Shruti Singh, Brent Harrison, and Mark O. Riedl. Event Representations for Automated Story Generation with Deep Neural Nets. CoRR abs/1706.01331 2017.

# Research Question

How to marry these approaches?

1. How to make **expressive dialogs**?

i.e beyond simple QA

2. How to make **interactive stories**?

i.e. conversational story space navigation