

# Some ideas regarding knowledge management...

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# ::: Knowledge :::



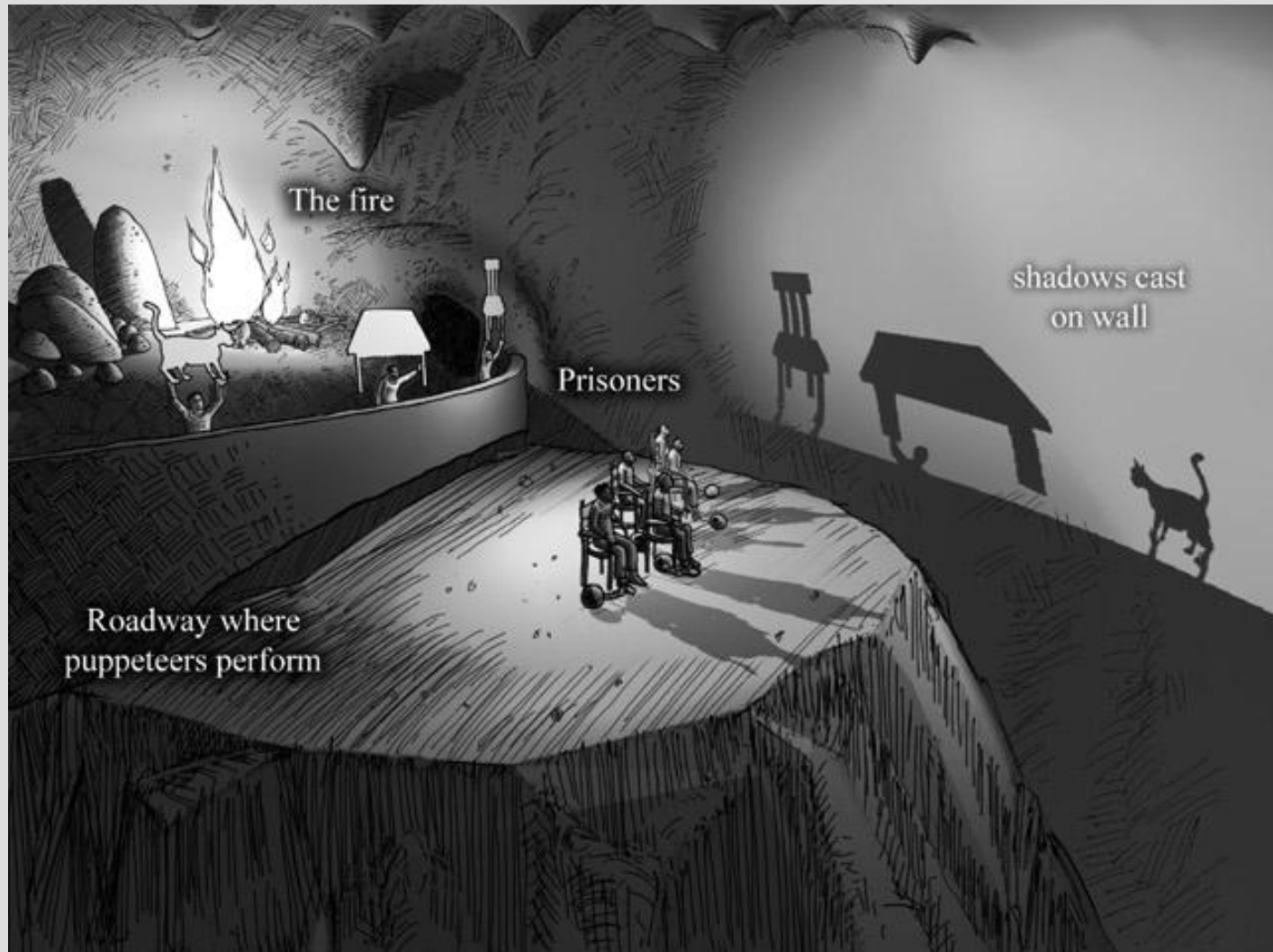
- ▶ It is present in any human activity.
- ▶ It is an asset for individuals as well as for organizations.
- ▶ Nevertheless, although it is everywhere... machines have a bad time trying to gather it, or represent it successfully.
- ▶ As soon as machines are enabled to perform this complex task, computability frontiers will cover a bigger land.

# Knowledge Representations...



- ▶ Any tool (including those from the hardware store) *is a knowledge representation*.
- ▶ Logics arguments, math formulas, algorithms, models, etc. *are clearly knowledge representations*.
- ▶ These representations are specific, and require: designing efforts and, frequently, formal proving.
- ▶ **Is there an universal way to represent synthetically the knowledge?**

# Plato's Cave<sup>1</sup>



# Plato's Cave<sup>2</sup>

- ▶ Plenty of discussions could be started from this idea, although some aspects are useful for knowledge representation:
  - *The prisoners are our senses, chained by their own limitations.*
  - *The bottom of the cave represents the physical brain (neurons, synaptic connections and chemicals around them). The bottom of the cave is rough and imperfect, just as our brain.*
- ▶ Even though senses are limited and humans' brain is rough and imperfect; machines are unable to mimic its performance: **The Common Sense.**

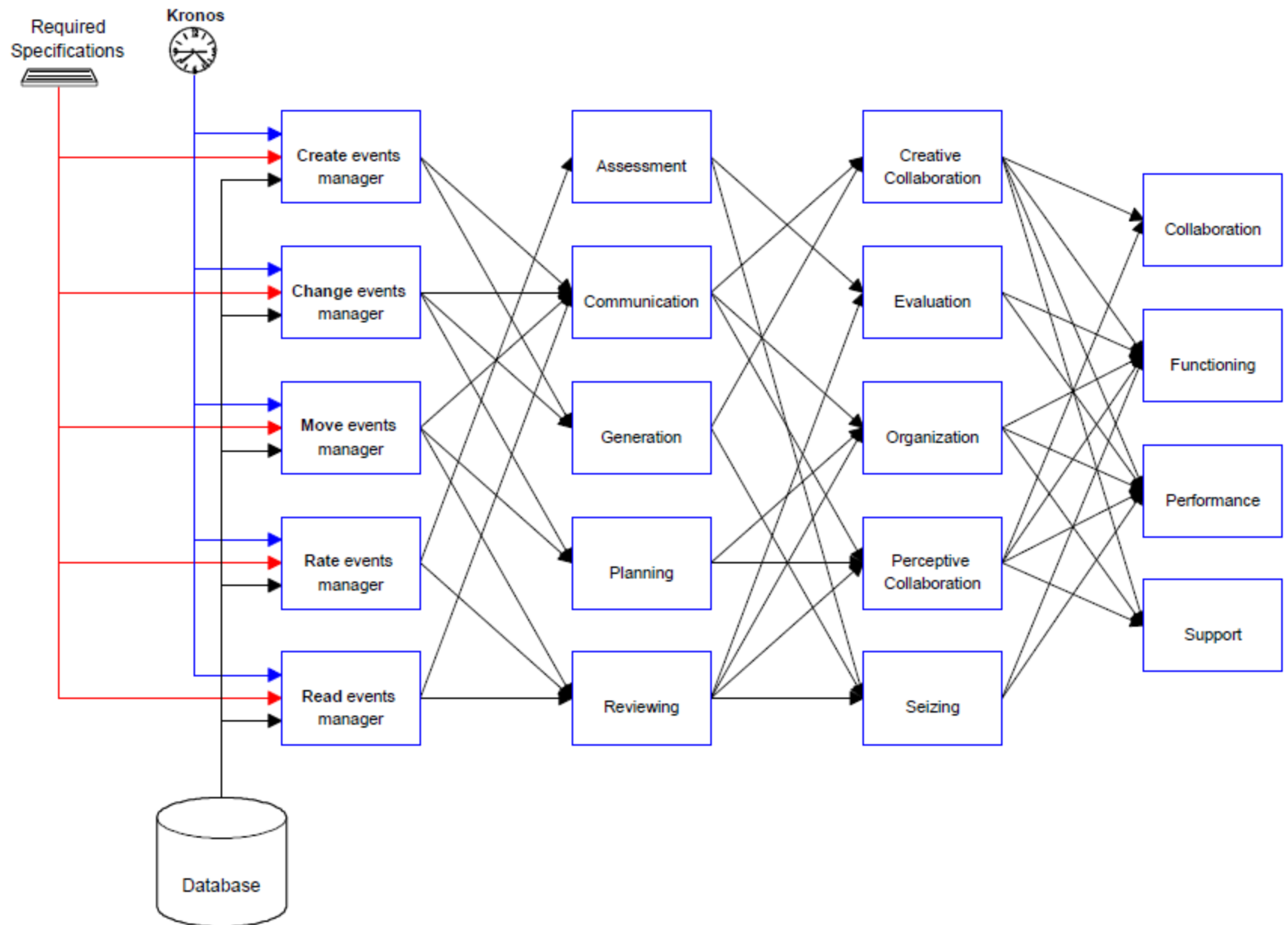
# Complex Networks!

- ▶ The secret of the Natural Evolution regarding brain's power... is the networked structure.
- ▶ Networks have inherent properties based on their structure.



- ▶ Humans will tend to explain any phenomena as a network. Because reality projects in a networked brain (cave's bottom).

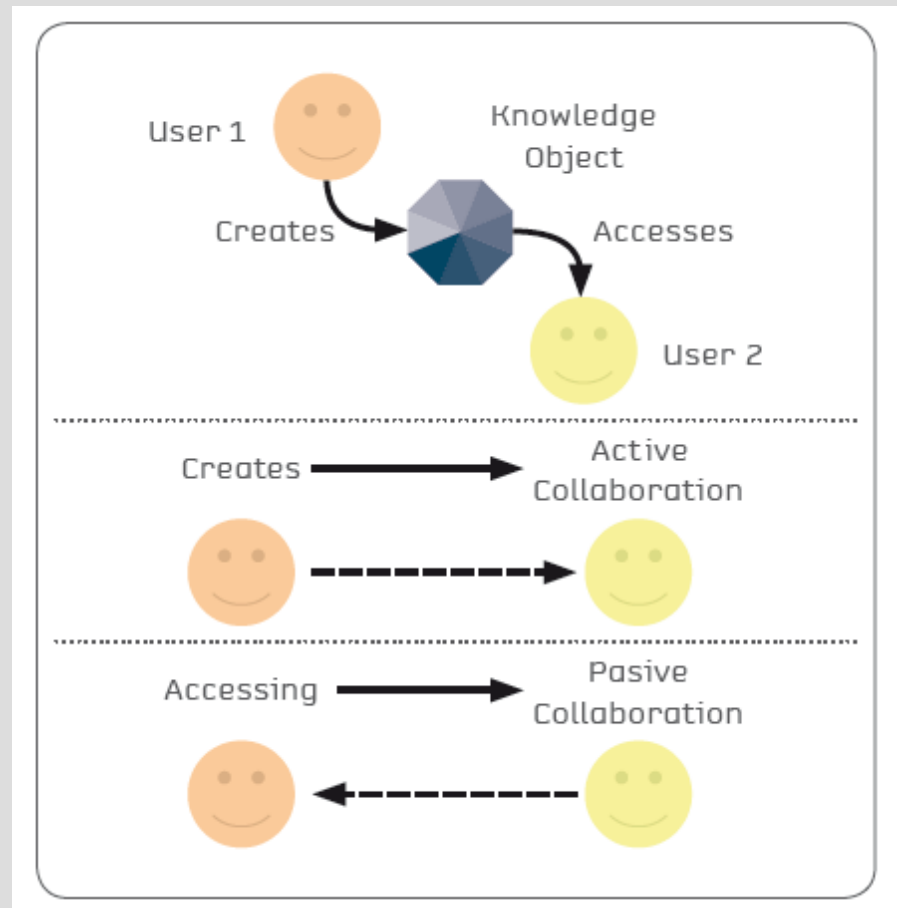
# An example<sup>0</sup>...



# An example<sup>1</sup>...

Collaboration  
Analysis in CSCW  
Environments:

The  
Collaboration  
Circuit!

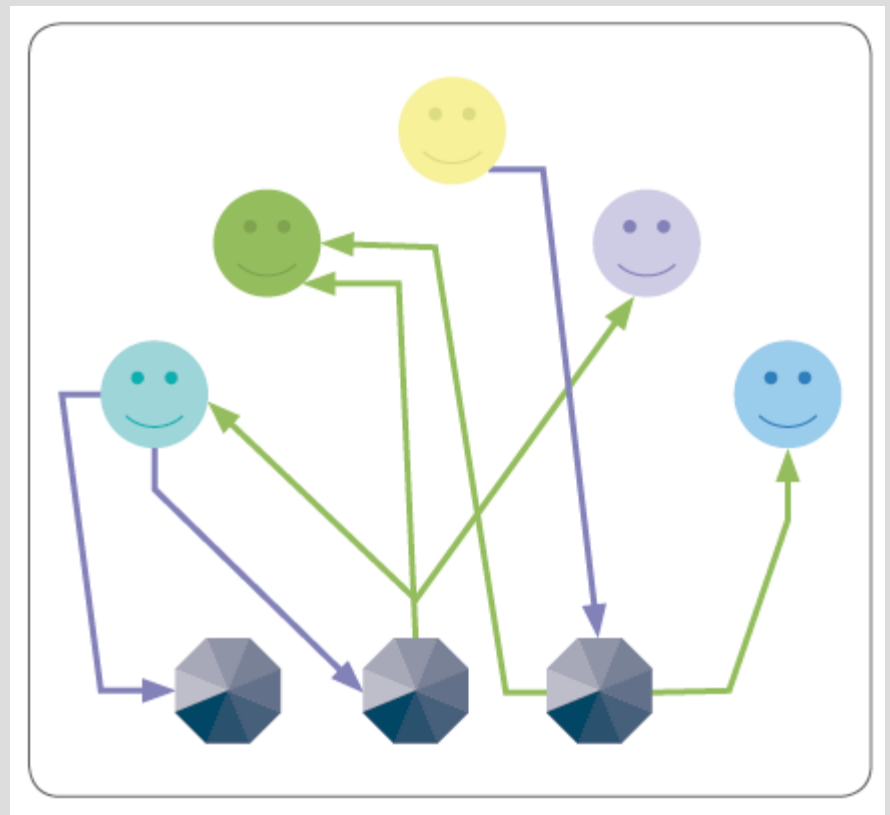




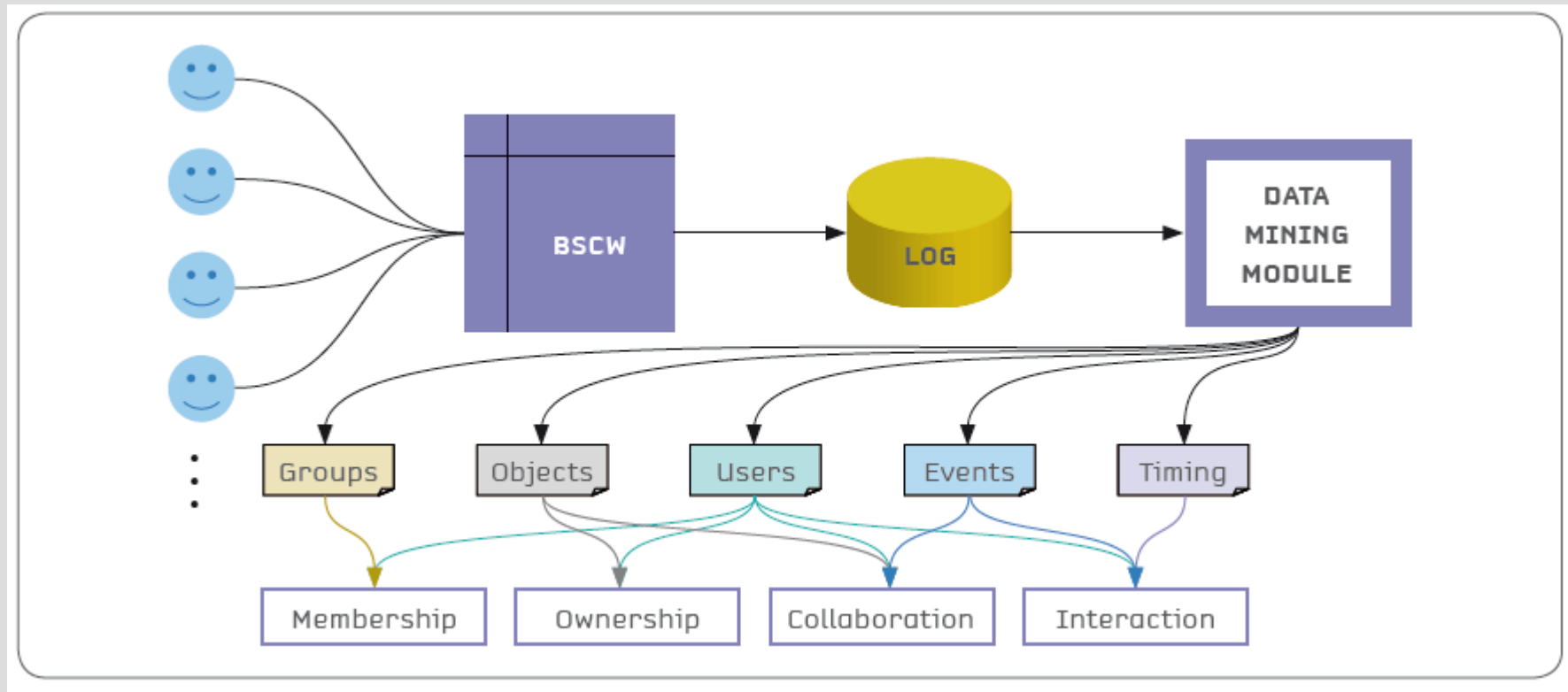
# An example<sup>2</sup>...

Collaborators are bound by the knowledge objects...

Hence, a network is gradually braided.

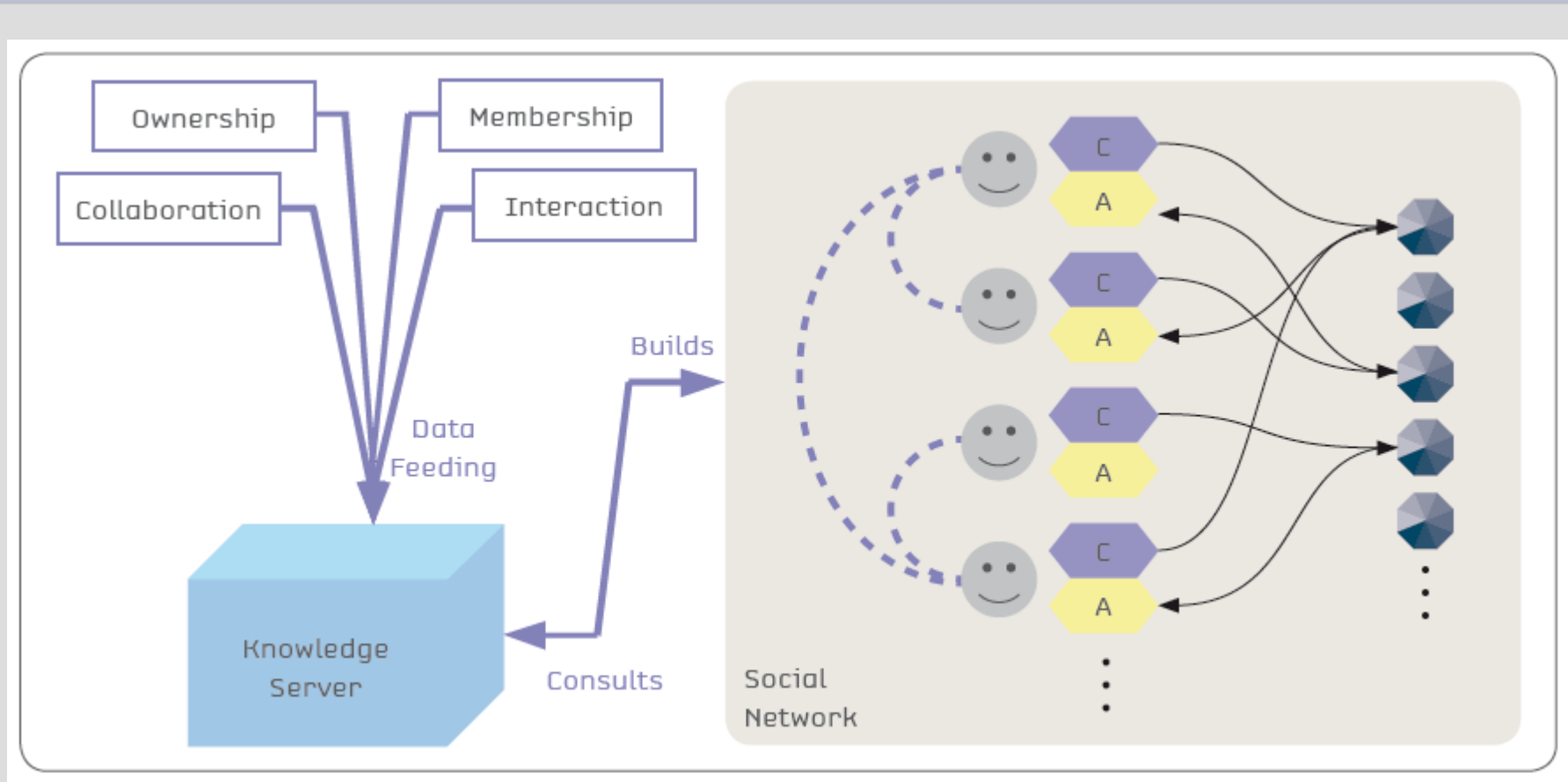


# An example<sup>3</sup>...



Collecting data from log files...

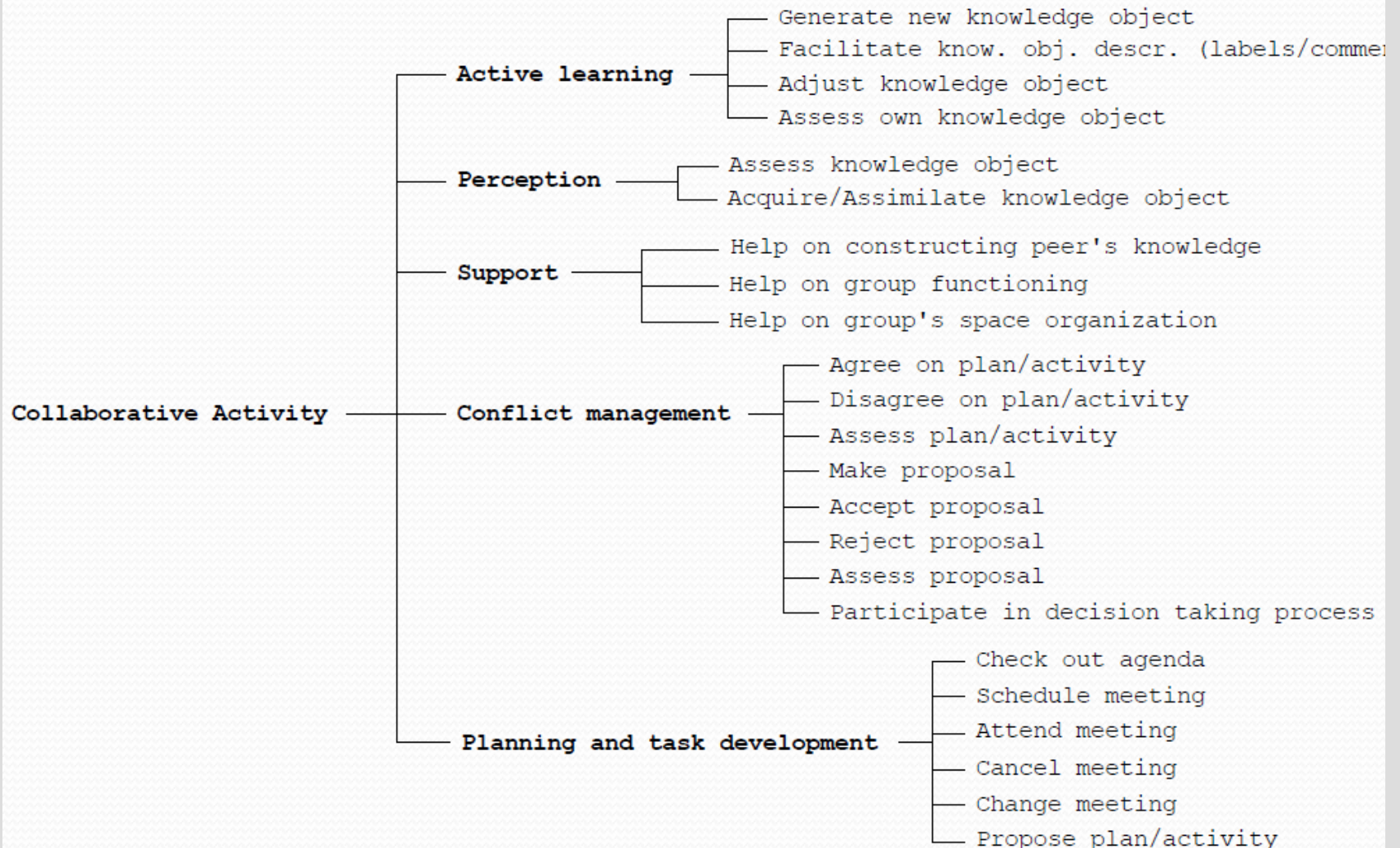
# An example<sup>4</sup>...



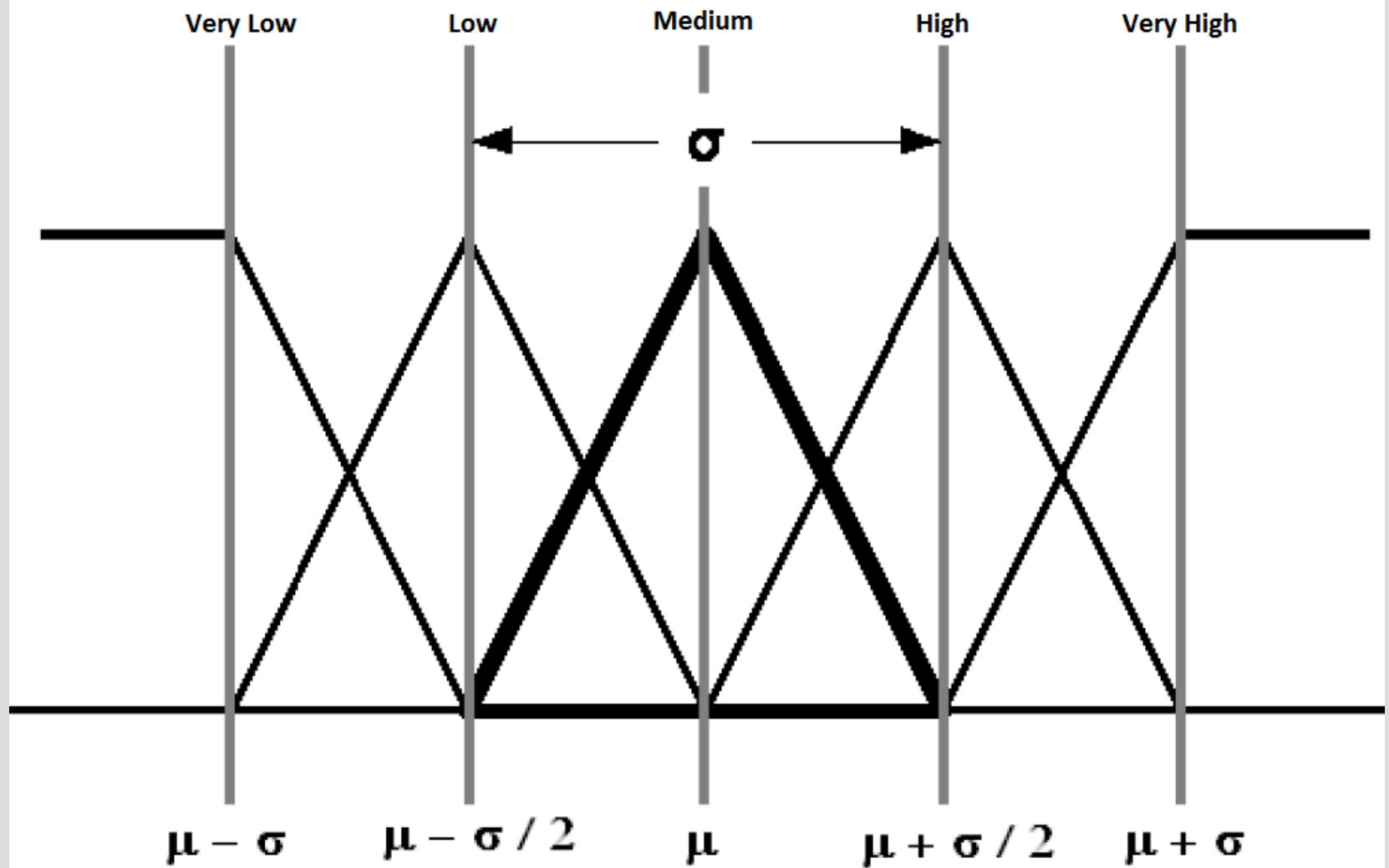
Building Network...

# An example<sup>5</sup>...

## The ontology beneath:

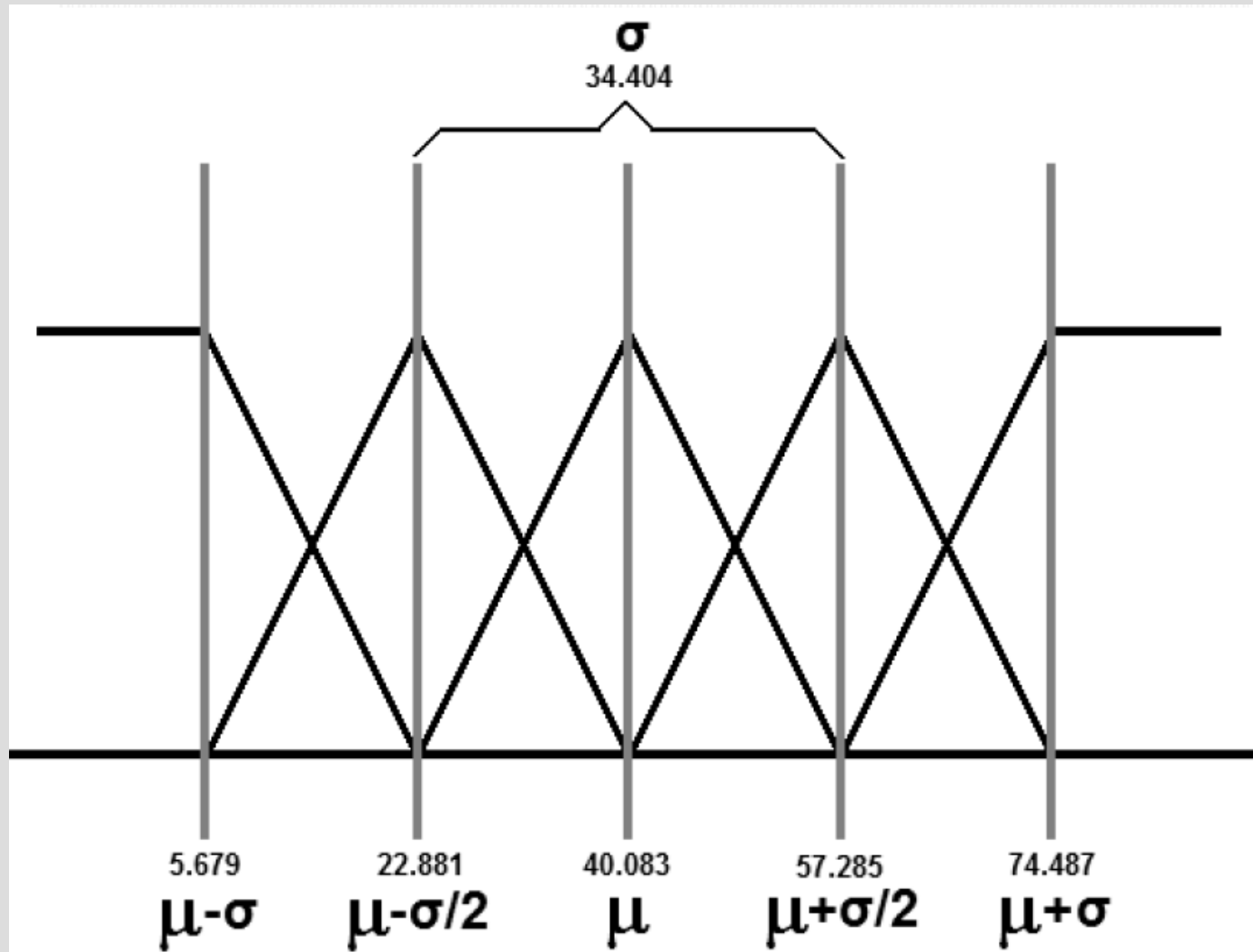


# An example<sup>6</sup>...



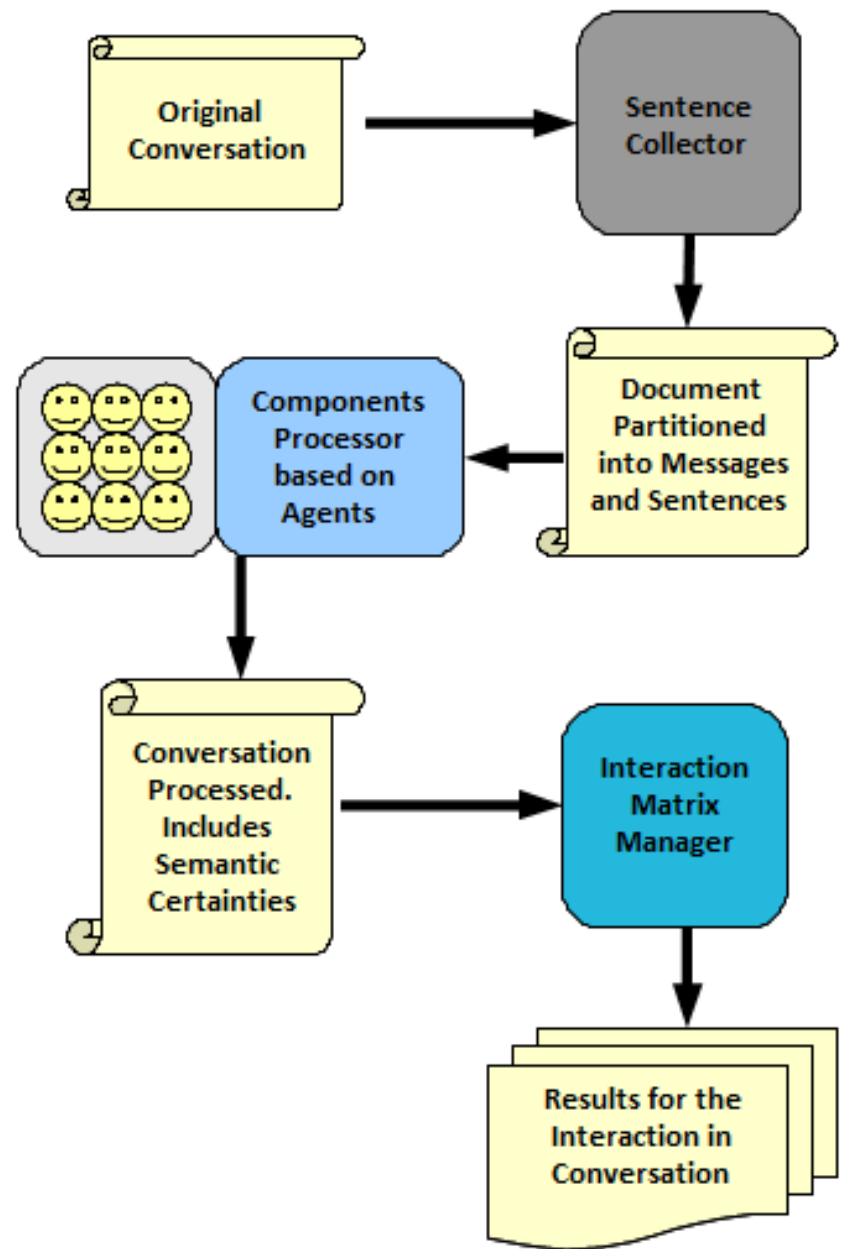
# An example<sup>7</sup>...

Using fuzzy model over “CreateEvent”



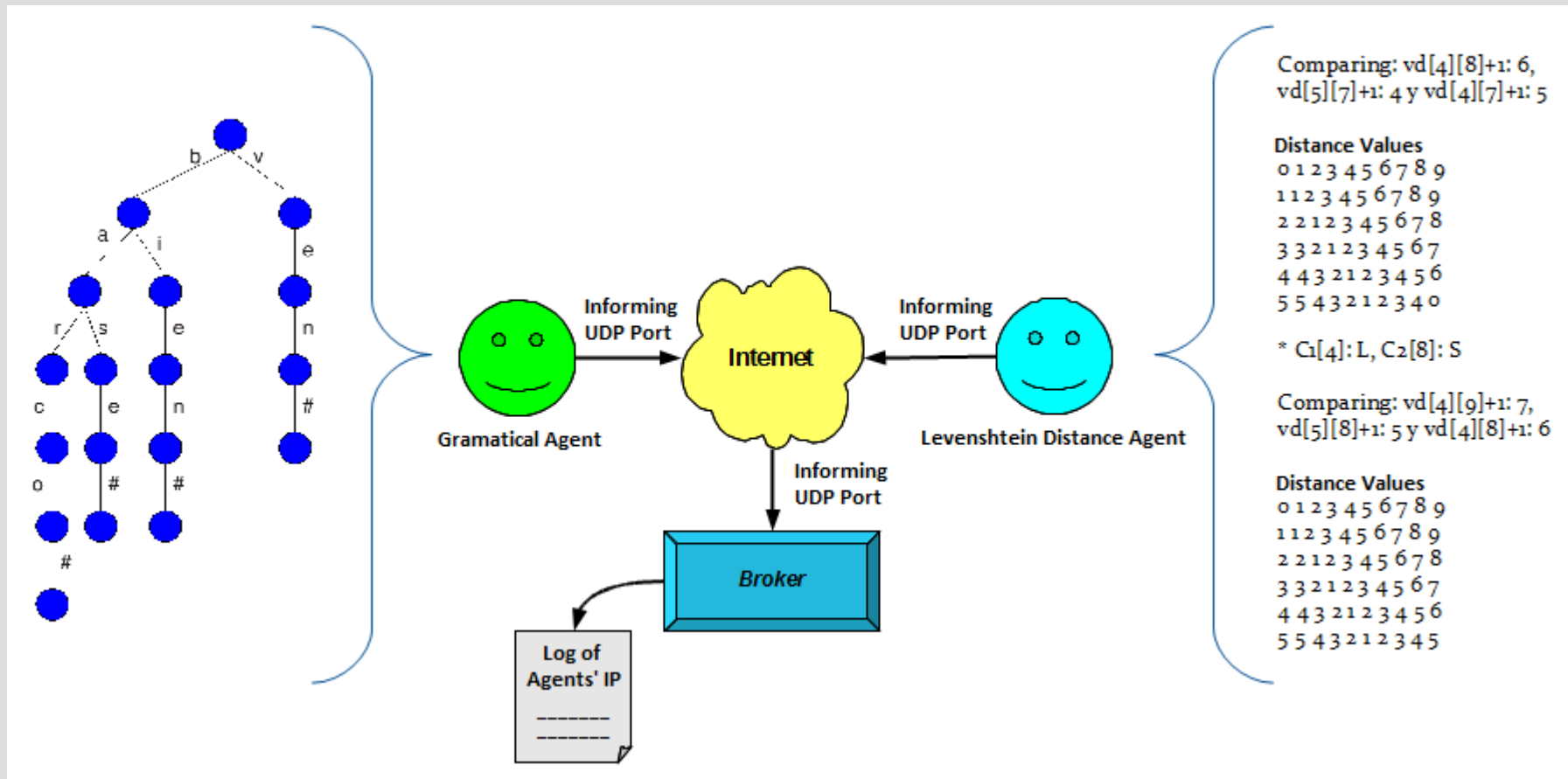
# An example<sup>8</sup>...

## Steps for Conversation Analysis



# An example<sup>9</sup>...

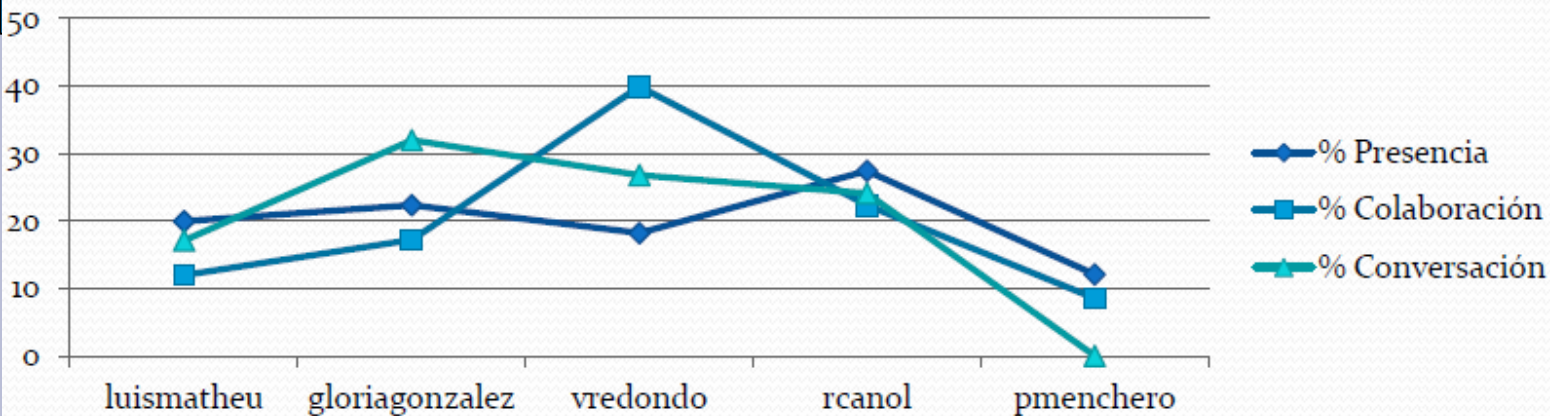
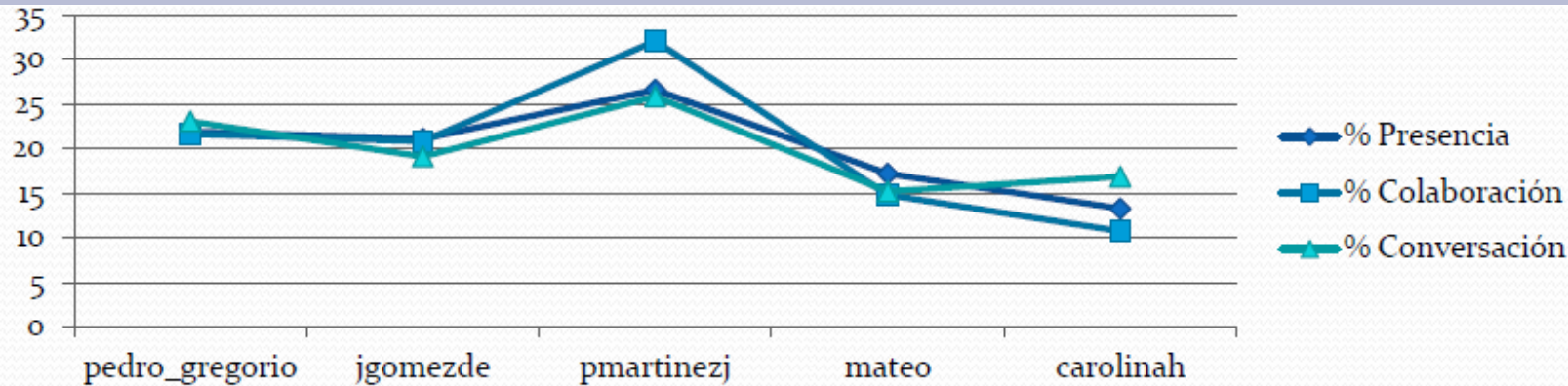
## Agents Operation





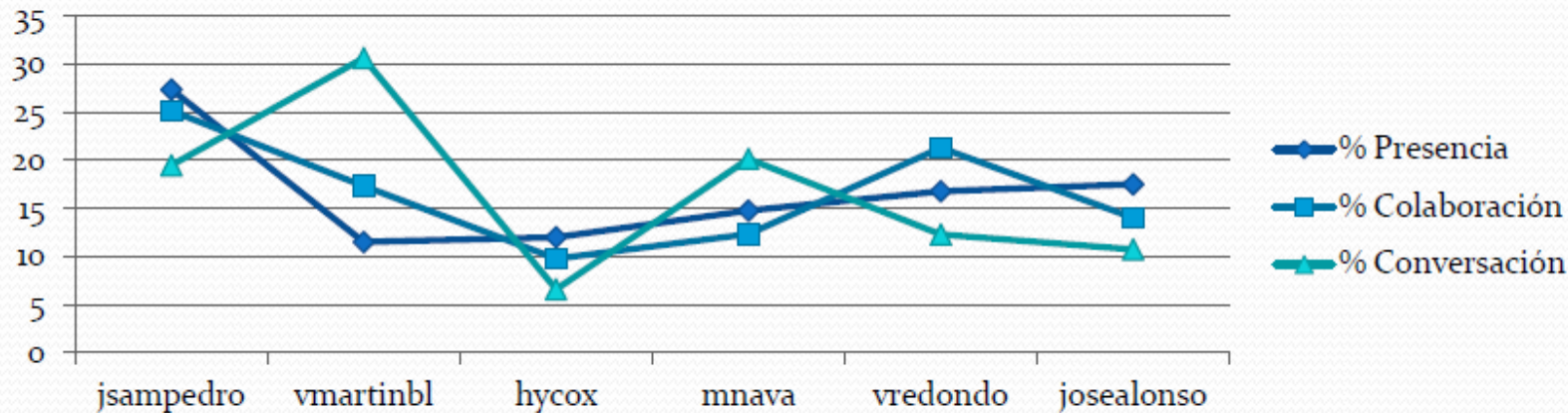
# An example<sup>10</sup>: Testing...

**Grupo 01**  
*Merae*  
[IAG]



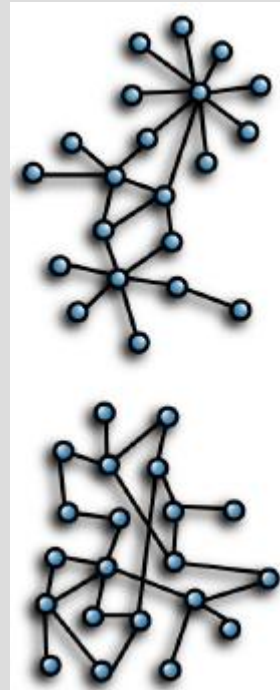
**Grupo 05**  
*Infogrup*  
[IAG]

**Grupo 02**  
*LiberEdit*  
Group  
[TDS]



# Complex Networks Analysis

- ▶ While traditional systems were modeled as random graphs, it is increasingly recognized that the topology and evolution of real networks is governed by robust organizing principles.
- ▶ The most notable behaviors of complex networks are: “small world”, “clustering” and “scale-free”.
- ▶ Complex networks principles could explain diverse phenomena, which are not (apparently) bound to networking.



# Thank you! :D

- ▶ Any questions?

