



KRISTINA

A Knowledge-Based Information Agent with Social Competence  
and Human Interaction Capabilities

# A Knowledge-Based **Conversation Agent** -with **social and cultural** competence-



<http://kristina-project.eu/>

**KRISTINA Consortium**

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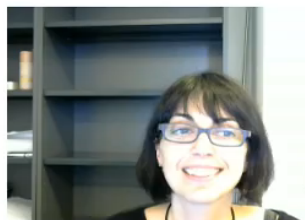
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# KRISTINA's Motivation



KRISTINA



Reservation: Reserved for you until:  
15:52:49 GMT+0100 (Hora estándar  
romance)  
Selected scenario:

Push to talk (*SpaceBar*)

Manual text input:

Hola Kristina

Send text

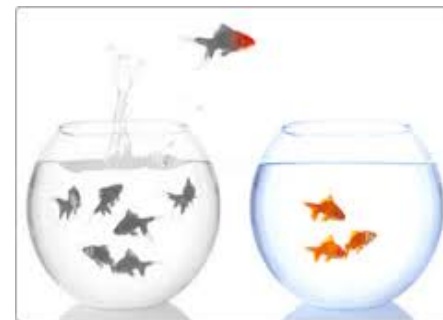
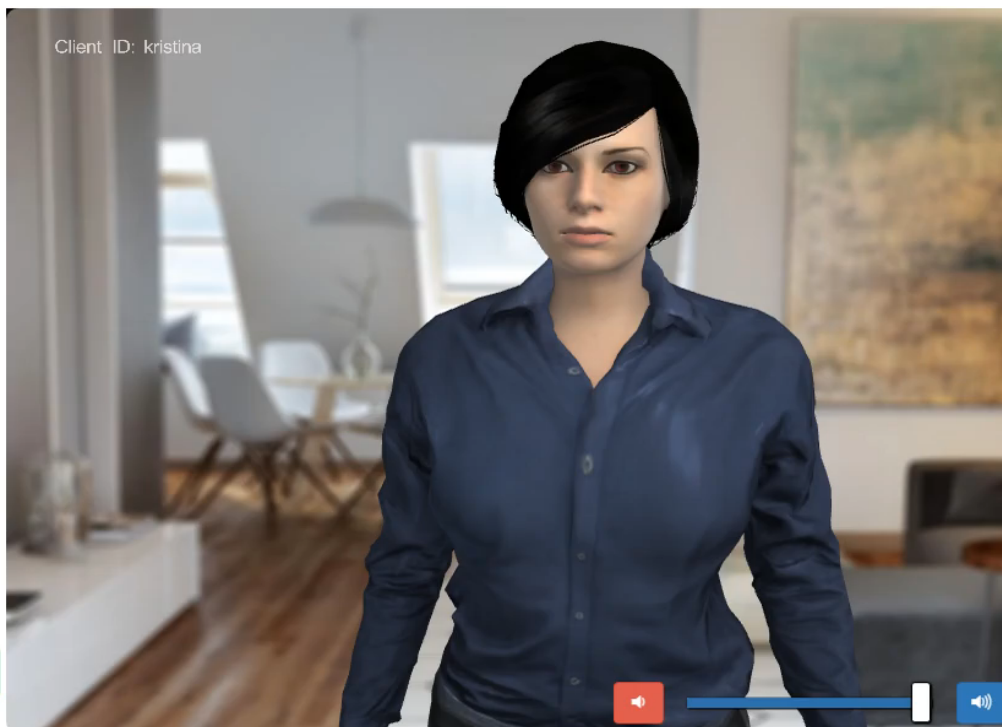
Transcript: "Hasta pronto"

Popup screens:

Scenario Selector

Reserve System

Settings



## KRISTINA's Settings

### Target users

- **Elderly** (care recipients) with German and Turkish background
- **Care givers** with Polish background
- **Migrants** in need of health care information with North African background

### Target roles

- **Social companion** in geriatric contexts (small talk, daily routines, cultural and physical activities, ...)
- **Basic care assistant** (preferences of the care taker, care advices)
- **Health care adviser** (info on health care system, body care advices, ...)

## A sample dialogue with KRISTINA

**K:** *You look downhearted today. What is wrong?*

**U:** *I feel sad. Because of my eyes, I even can't read the newspaper anymore.*

**K:** *Shall I read the newspaper aloud for you?*

**U:** *Yes, this would be great!*

**K:** *You certainly can still read the headings of the articles. Just tell me which one I shall read. ...*

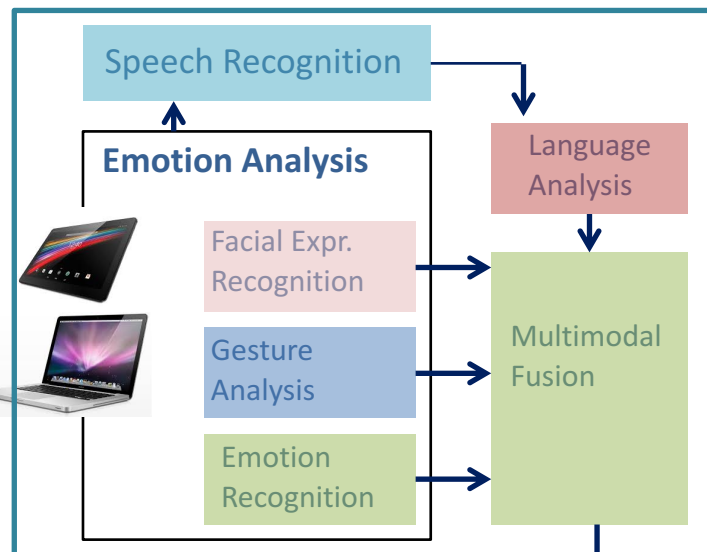
...



## KRISTINA's Technologies

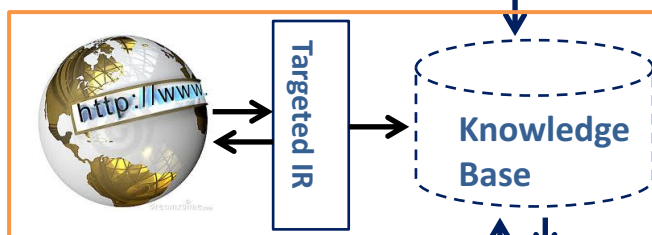
3 USER PARTNERS

8 TECHNICAL PARTNERS

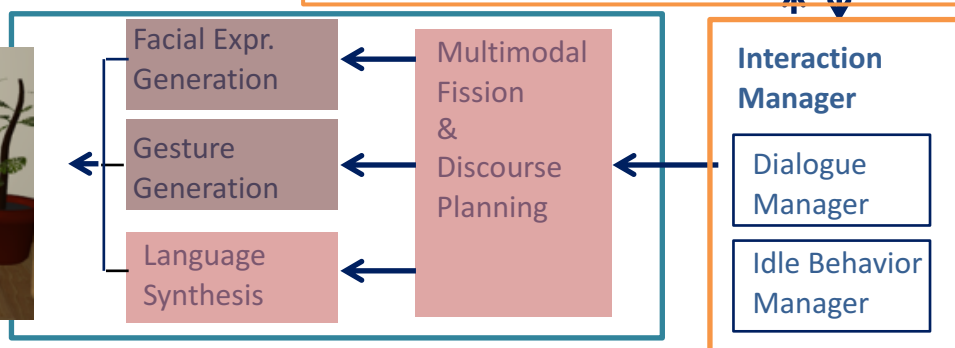


Listen and watch

Speak and act



Think and learn



Know how and when to interact

## What is the Added Value of KRISTINA?

- **Target:** individuals in need of advice and support in the context of basic care and healthcare.
- **Multilinguality:** German, Spanish, Polish, Arabic and Turkish.
- **Versatility:** socially and culturally adapted and designed and tested by experts in basic and health care.
- **Applicability:** web-based integrated technologies.





# Thank you!



Universitat  
Pompeu Fabra  
Barcelona



Information Technologies Institute



VOCAPIA  
research

EBERHARD KARLS  
UNIVERSITÄT  
TÜBINGEN



Deutsches  
Rotes  
Kreuz

*Aus Liebe zum Menschen.*



## Where do we stand?

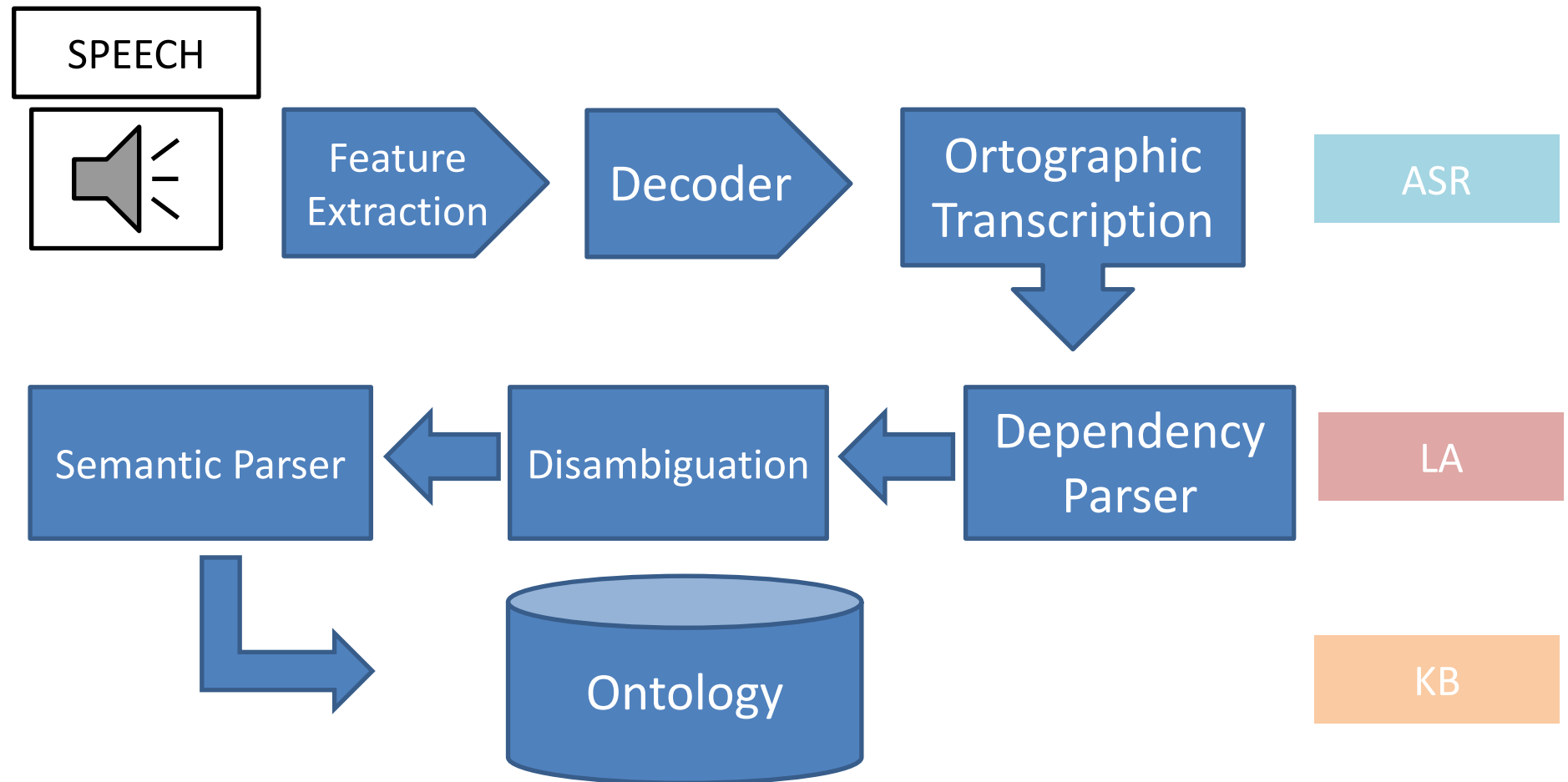
- Third (and last) year
- Working on the Final Demonstrator
- The coverage of the number of conversation topics is (still) limited, but can be extended as needed
- Language coverage: German, Polish, Spanish, Turkish



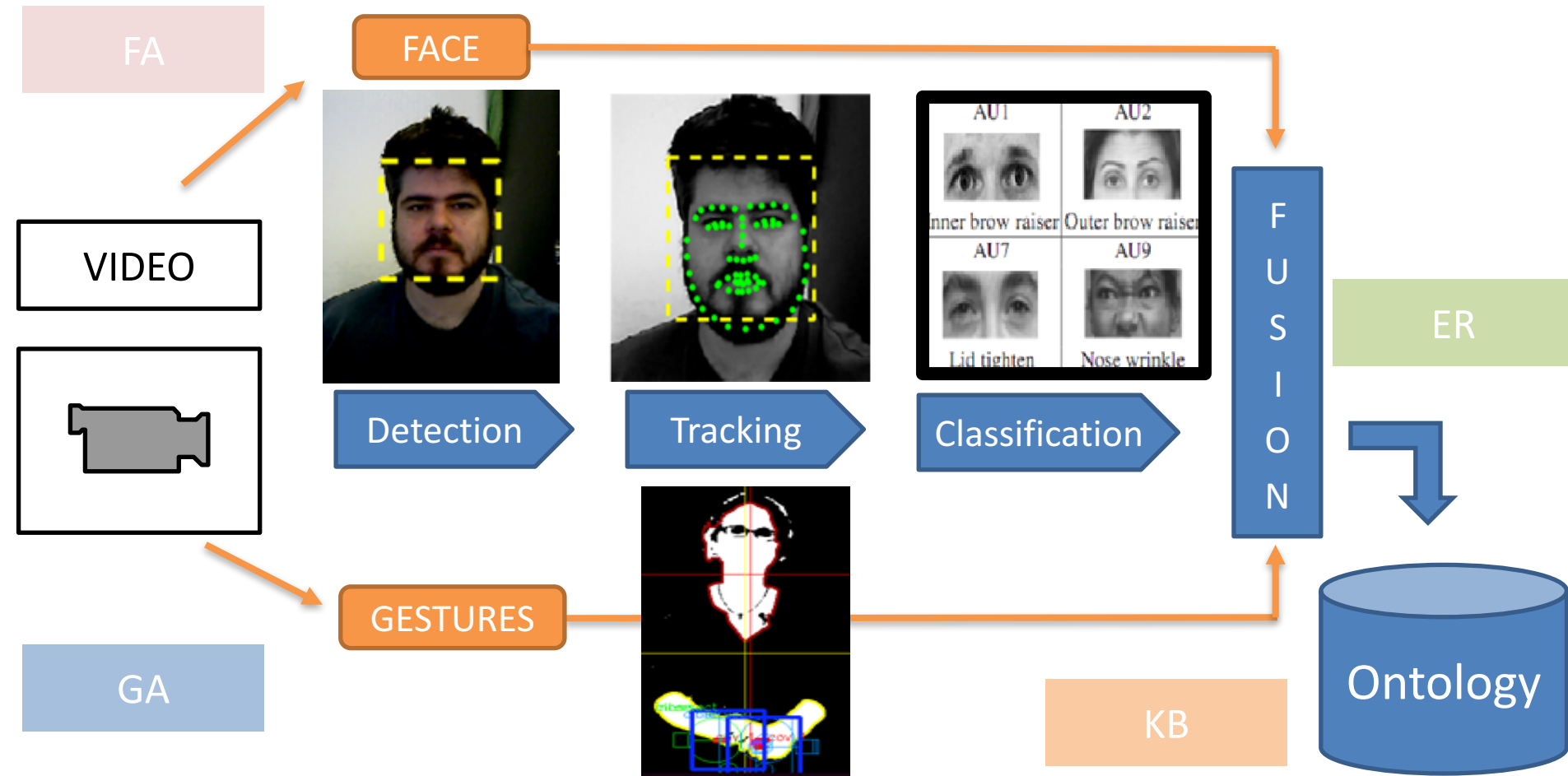
# Preliminary evaluation

Evaluation statement	Likert scale value (SD)
It is clear what KRISTINA wants to communicate	3.23 ( $\pm$ 1.42)
KRISTINA does not provide the right amount of information	2.73 ( $\pm$ 1.10)
The conversation with KRISTINA is confusing	2.84 ( $\pm$ 1.27)
KRISTINA behaved as expected	3.0 ( $\pm$ 1.21)
KRISTINA acted on own initiative	3.25 ( $\pm$ 1.29)

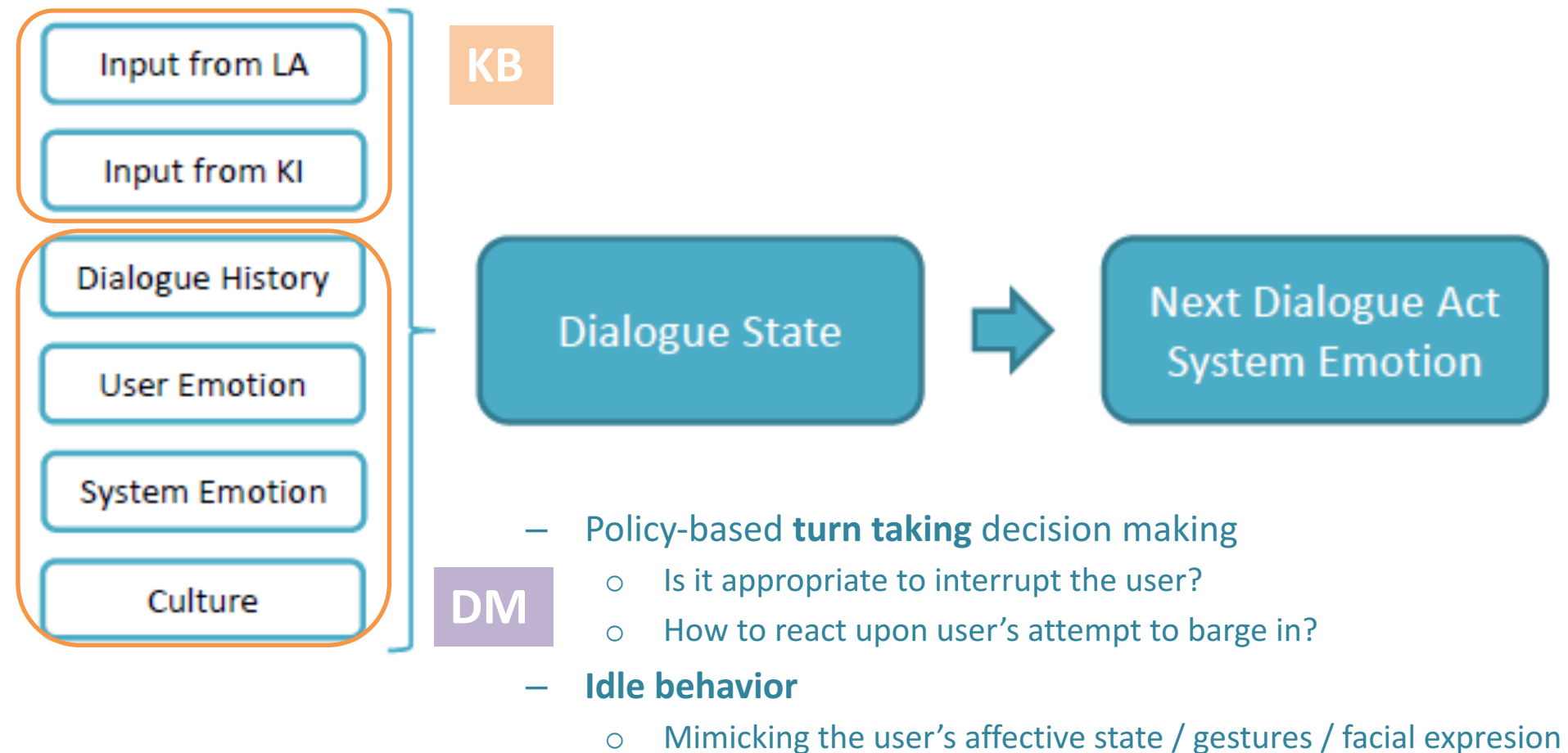
# 3.1. Multimodal Communication Analysis (Verbal)



## 3.2. Multimodal Communication Analysis (Non-verbal)



# 3.1. KB Dialogue Management



# 3.3. Multimodal Communication Generation

