



Adaptive Dialogue Management in the KRISTINA Project for Multicultural Health Care Applications

Louisa Pragst, Stefan Ultes, Matthias Kraus, Wolfgang Minker
Ulm University, Institute of Communications Engineering, Ulm, Germany

Project Goals

- Support **immigrants** in **healthcare** related questions
- Enable **culturally sensible, socially competent, natural** conversation
- Handle **large domain size**

KRISTINA Use Cases

- Provide health care information
 - to untrained relatives/immigrants taking care of elderly at home
 - to immigrants seeking medical help
- Provide cultural information
 - to nurses taking care of elderly immigrants in assisted living
 - to immigrants acting as care givers for elderly at home
- Considered cultures:
 - Turkish** elderly in Germany
 - Polish** care givers in Germany
 - Arab** immigrants in Spain

Providing a natural conversation

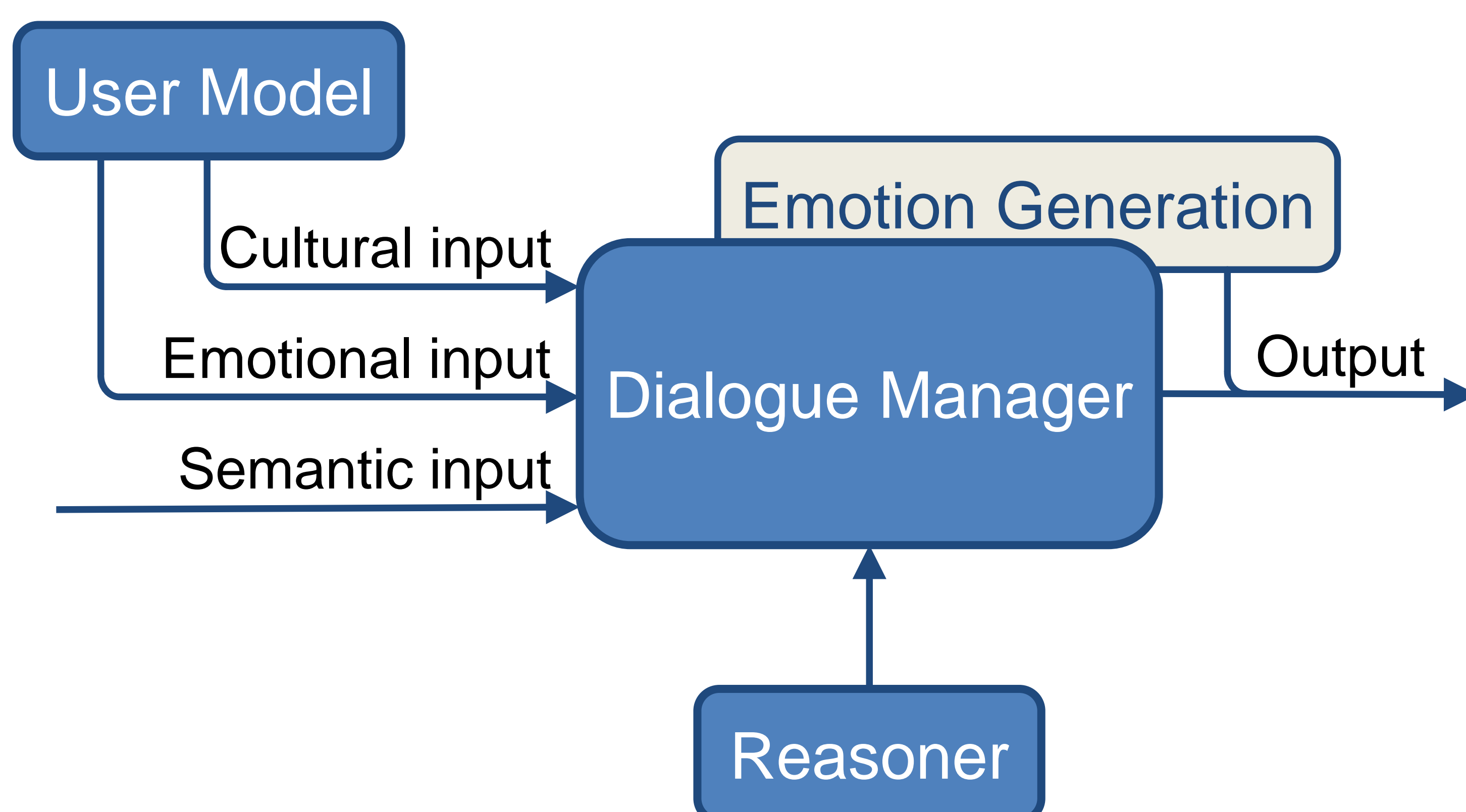
- **Adaptation to cultural background:**
 - Cultural differences in communication may be observed (e.g. Elliott et al., 1999)
 - possible source of misunderstandings
 - Consider culturally dependent communication aspects, e.g. rhetorical style, values, animation, directness
- **Adaptation to emotional state:**
 - Adaptation to emotions improves user acceptance (Jaksic et al., 2006; Partala and Surakka, 2004)
 - Emotional system actions, e.g. calm down
- **Generation of emotional response:**
 - Expression suppression may prevent social bonding (Butler et al., 2003)
 - Need for emotional response by system
 - Consider interrelation between system action and system emotion

Handling the domain size

- External **knowledge base** to model domain
- **User model** to store personal information
- **Reasoner** to identify user intent and information missing to fulfill query
 - Improved modularity and robustness

Conclusion

- Creation of a **culturally sensible, socially competent** dialogue partner in a large domain by
 - Adaption to **cultural background**
 - Adaption to **emotional state**
 - Emotion generation**
 - Integration of a **reasoning component**



Contact

Louisa Pragst [louisa.pragst@uni-ulm.de]
 Stefan Ultes [stefan.ultes@uni-ulm.de]
 Matthias Kraus [matthias.kraus@uni-ulm.de]
 Wolfgang Minker [wolfgang.minker@uni-ulm.de]

www.dialogue-systems.org

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