The Impact of Personalization on Human-Robot Interaction

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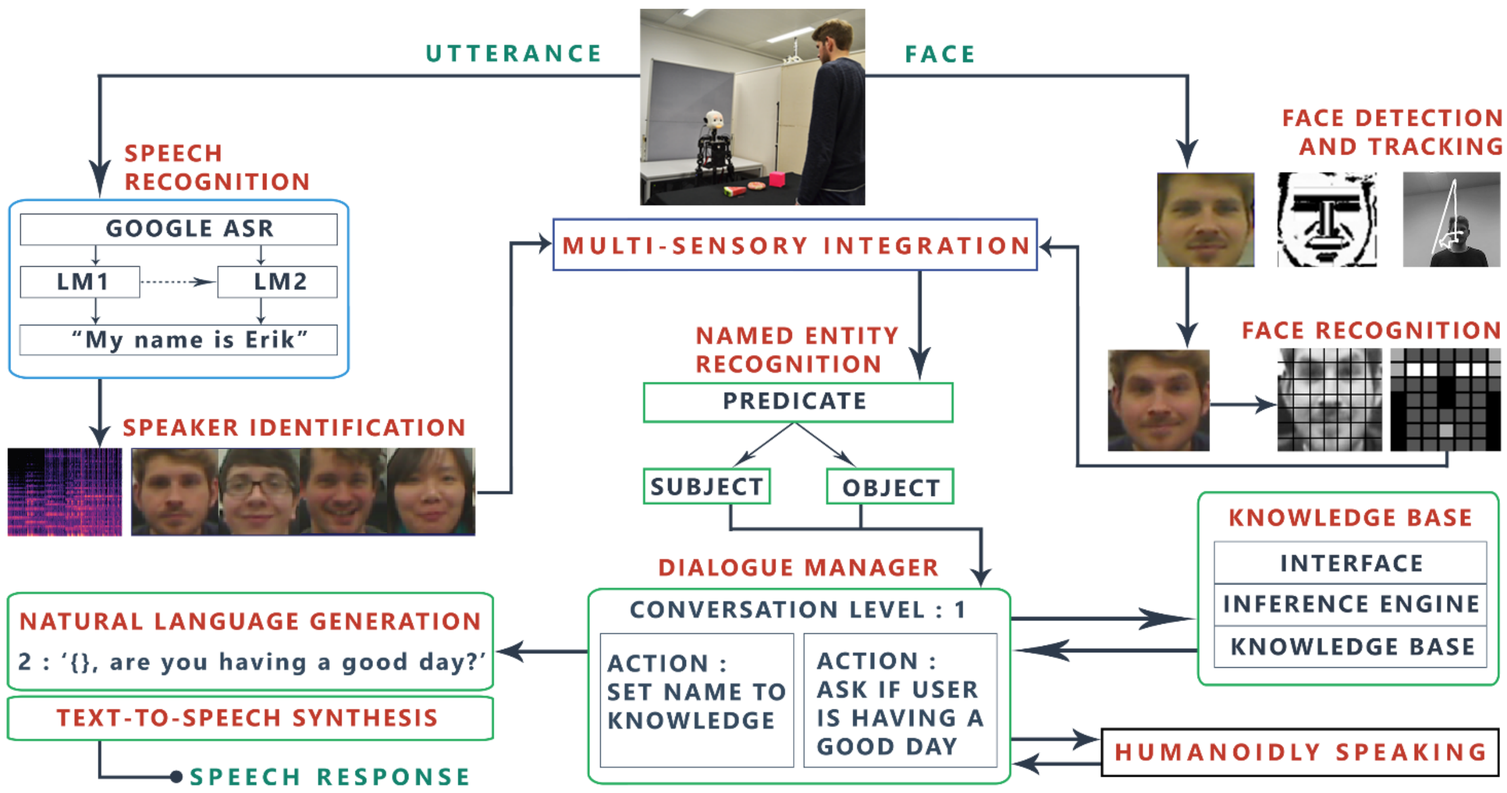
Motivation

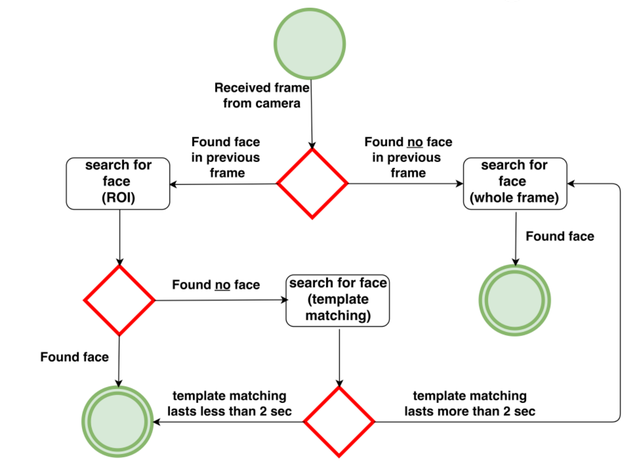
- Human-centric environment → sociable and interactive.
- Improves user's perception → overall competence.
- Model effective and engaging interactions.
- To present an interaction scenario with the NICO robot holding an engaging conversation with the users:
  - Autonomous interaction
  - Personalization → increase likeability.
  - Object learning scenario: Humanoidly Speaking.

Scenario

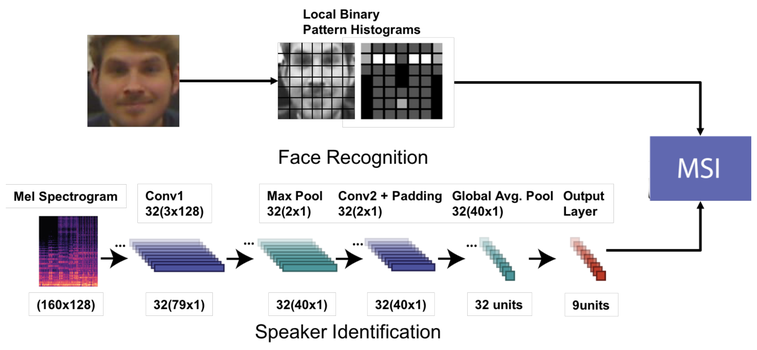


Approach

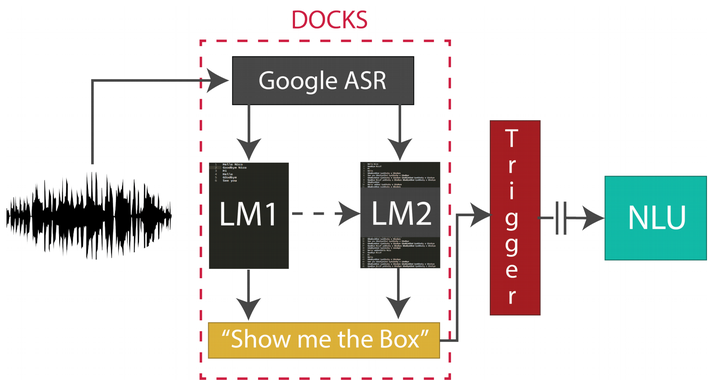
- Face Detection and Tracking



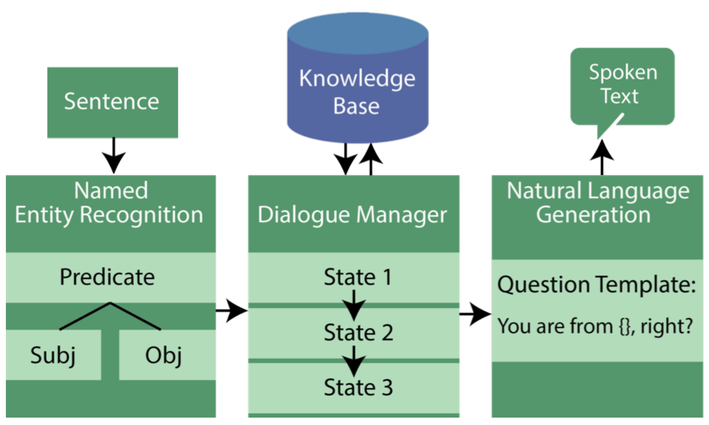
- Person Identification



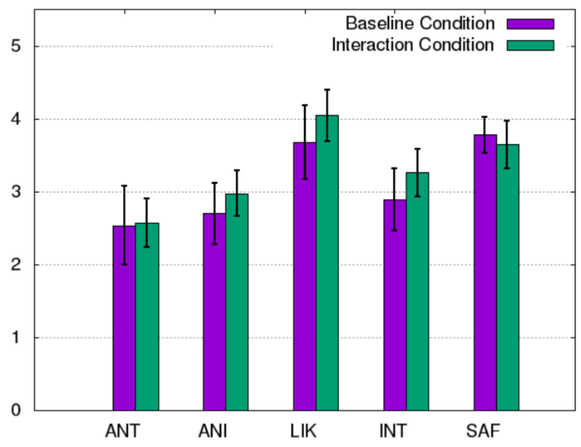
- Speech Processing

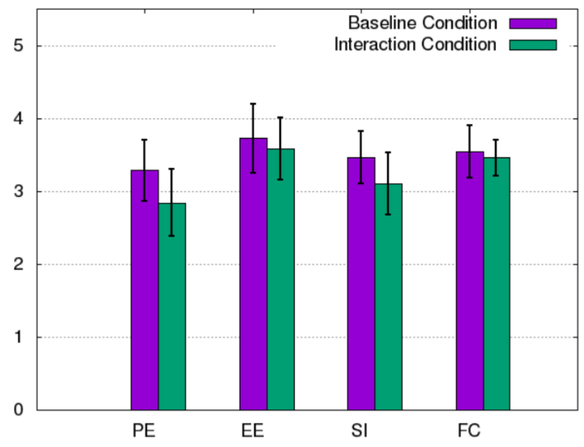


- Conversation Modeling



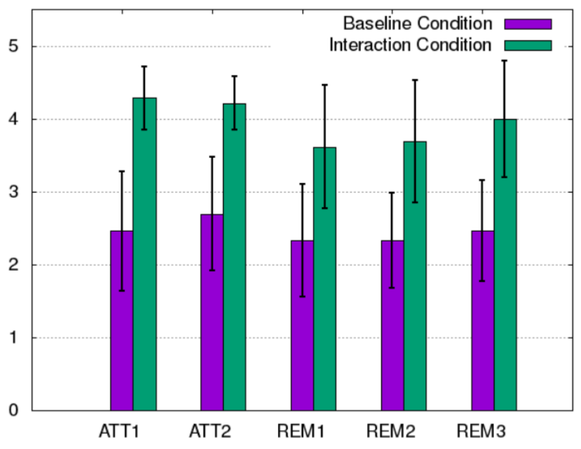
Preliminary Results





GODSPEED Dimension	Q^2	DoF	*p-value*
Anthropomorphism	8.9606	5	0.110
Animacy	6.0206	6	0.421
Likeability	**12.7130**	**5**	**0.026**
Intelligence	9.8482	5	0.079
Safety	**9.1397**	**3**	**0.027**

UTAUT Dimension	Q^2	DoF	*p-value*
Performance Expectancy	4.4579	5	0.485
Effort Expectancy	5.9265	5	0.313
Social Acceptance	**13.4710**	**5**	**0.019**
Facilitating Condition	4.3774	5	0.496

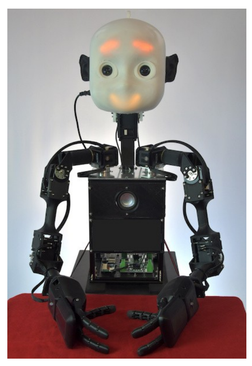


MISC Dimension	U	*p-value*
Pay Attention	**33.5**	**0.002**
Keep Engaged	**35.5**	**0.002**
Remember	**42.5**	**0.025**
Remember Next Time	**37.5**	**0.013**
Confidence remembering	**33.0**	**0.003**

Conclusion

- NICO as a personalised interactive social robot.
- Autonomous and personalised interaction.
- Participants perceived NICO to be more intelligent and likeable in personalised conversations, however having less social influence.

Vote for NICO on Facebook!



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