

Robots, Speech and Eldercare

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Mobile Voice 2015

Why Eldercare?

TECHNOLOGY

Why Robots?

Vision of the Future



Giraffe_{plus}

European Union

Why Robots?

Mobile

Physical

presence
Multifunctional

Why Speech?

Why Speech?

Flexible



Care-O-Bot 3



MOBISERV

Why Speech?

Flexible
Assistive
Social

SOCIAL ROBOT

A robot designed to interact with humans in as natural a way as possible.

Why Speech?

Assistive & Social



Care-O-Bot 3



MOBISERV

Why Speech?

Enhances Acceptance

Flandorfer, P. 2012 Population Ageing and Socially Assistive Robots for Elderly Persons: The importance of sociodemographic factors for user acceptance. *International Journal of Population Research*. Vol. 2012, Article ID 829835.

Heerink, M. et al. 2010 Relating Conversational Expressiveness to Social Presence and Acceptance of an Assistive Social Robot. *Virtual Reality* 14 (1)

Path to the Future

Natural-language processing
(NLP)

Learning

Path to the Future

Grounded
Bounded by tasks
Multimodal
Connected

Path to the Future

NLP & Learning

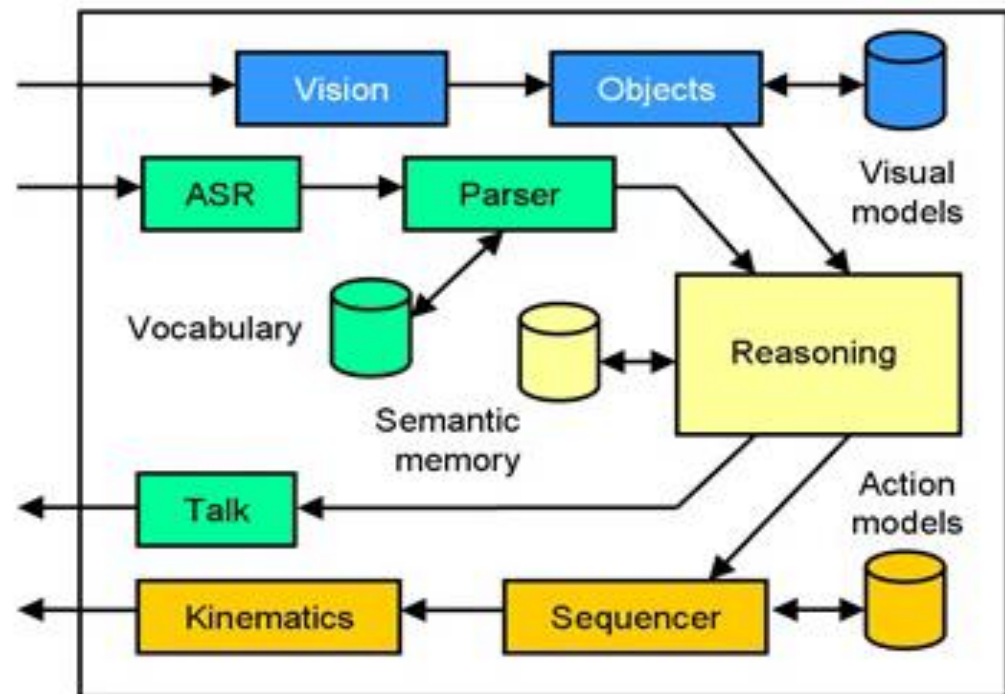


**Extensible
Language
Interface (ELI)**

IBM

NLP & Learning

ELI Knowledge Structure



Connell, J. 2014 Extensible Grounding of Speech for Robot Instruction. *Robots That Talk and Listen*.
Morgan Kaufmann (51)

Path to the Future

Development Platforms



Care-O-Bot 4
European Union



PR2
Willow Garage



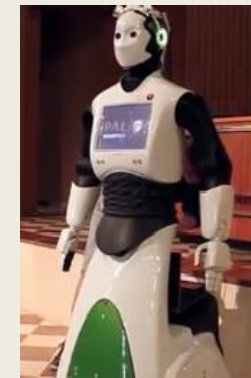
NAO
Softbank / Aldebaran



Olivia
ASORO Singapore



Tiago & REEM
Pal Robotics



Thank you