**BUILDING for TOMORROW**
72nd Fall Conference
at SUNY Oswego

**Technology Innovation Showcase | Technology Fall Conference | October 28, 2011**

**Showcase Title**
NAO Robots

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**Showcase/Innovative Practice Description**
The NAO robot showcase will include reasons why the NAO robot is used in
academia and how the robot can have a social impact. Recent projects and
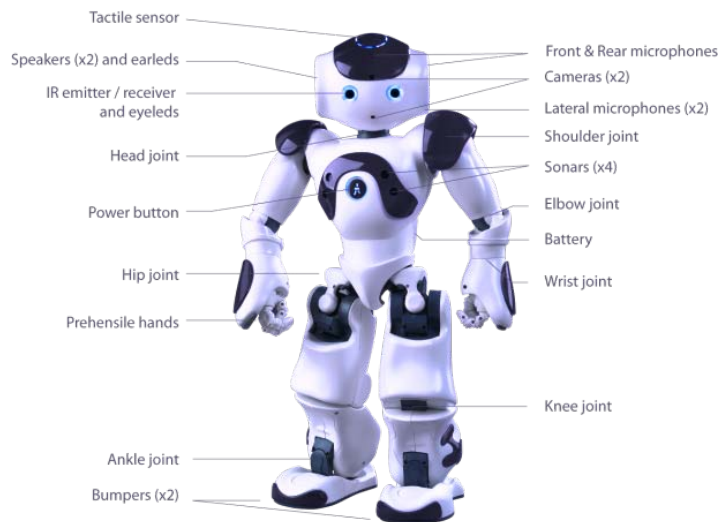reports by SUNY Oswego students will be discussed and displayed.

## Why Robots?

- ▸ May be able to assist:
  - ▸ Elderly
    - ▸ i.e. , Pol, Juola, Meesters, Weber, Yan, & Wermter (2010)
  - ▸ Persons with autism
    - ▸ i.e. , Barakova & Lourens (2010)
  - ▸ Persons with difficulties understanding others' behavior
  - ▸ Patients and staff in hospital settings
- ▸ How?
  - ▸ Improve emotional understanding
  - ▸ Improve social skills
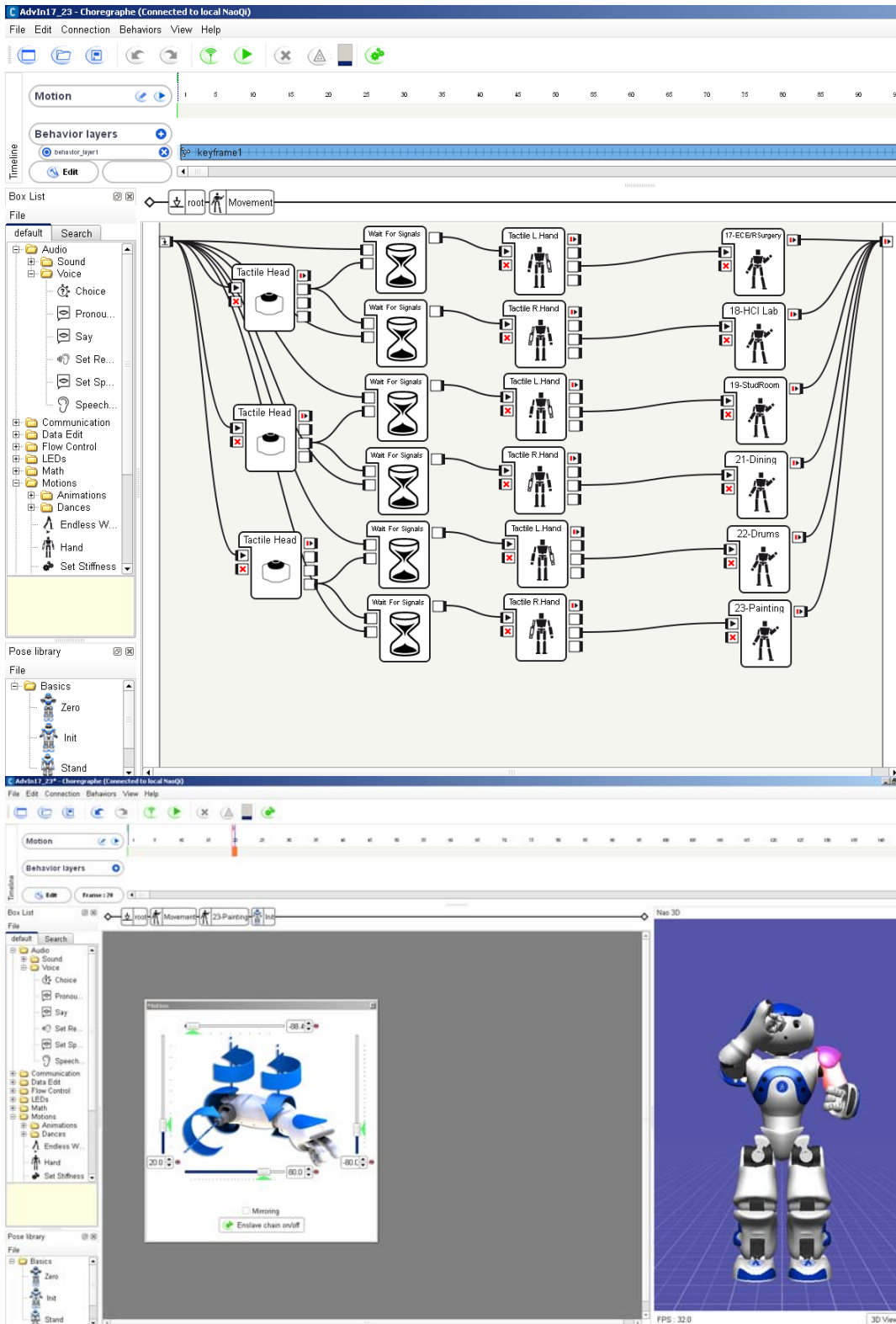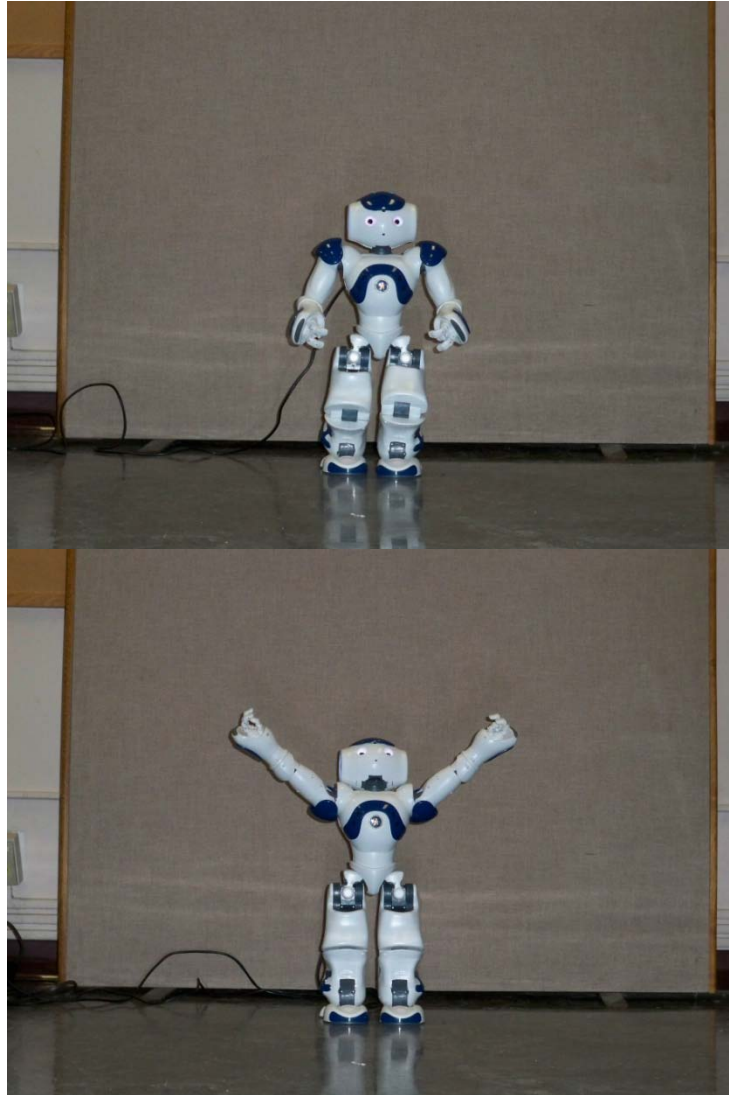  - ▸ Have advanced abilities



## Aldebaran Robotics' NAO

- ▸ Most used humanoid robot
- ▸ Compatible with Linux, Mac, and Windows
- ▸ Highly versatile
- ▸ 25 Degrees of Freedom
- ▸ Verbal Recognition
- ▸ Speech Generation
- ▸ Visual Recognition
- ▸ Movement Generation
- ▸ WiFi



Tactile sensor
Speakers (x2) and earleds
IR emitter / receiver and eyeleds
Head joint
Power button
Hip joint
Prehensile hands
Ankle joint
Bumpers (x2)

Front & Rear microphones
Cameras (x2)
Lateral microphones (x2)
Shoulder joint
Sonars (x4)
Elbow joint
Battery
Wrist joint
Knee joint

## Customization of Movement: Choregraphed

NAO Robot Expressing Emotion: Happiness

## References

Aldebaran Robotics. (2011). NAO user's guide. Version 1.6.0.

Barakova, E. I., & Lourens, T. (2010). Expressing and interpreting emotional movements in social games with robots. *Pers Ubiquit Comput*, *14*, (457-467).

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