

Group 1b

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Speedy

Purpose/Scenario:

- Industry
- Professional services (laundry, ...)
- Any inspection, maintenance (testing, security) also hazardous environments, offshore,
- Trash sorting in public
- Domestic

Arm

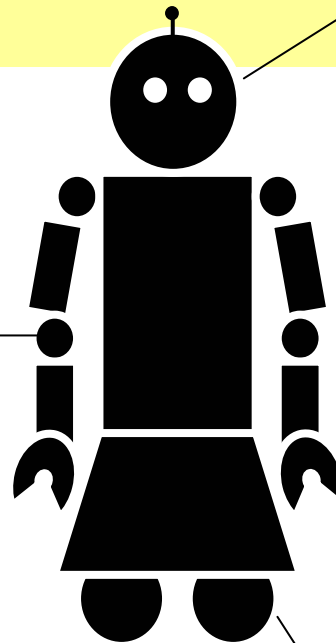
- Drive Modules (multifunction)
- Adaptive control
- Sensitivity (force, haptic, approach)

Sensor head

- Pan-tilt-unit
- Stereo-camera
- 3-D sensor
- Speaker
- Microphone
- Localization, balancing

Grippers

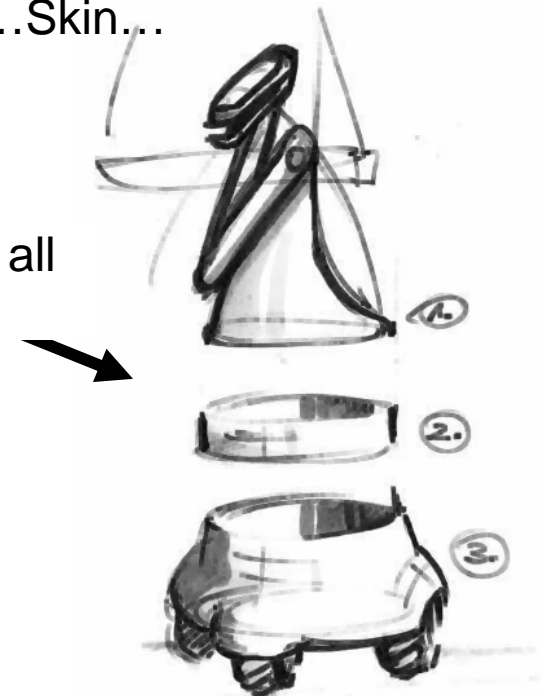
- Force – torque/tactile sensor
- Hand-camera
- In-finger tactile sensors
- ...Skin...



Modular at all levels

Wheeled body
Possibly legs or combination

- Basic mechanical requirements:
- Light-weight
- Low-cost
- Energy dependant
- Modular



Project Sketch 1/5

Develop and apply engineering approaches

that cater for :

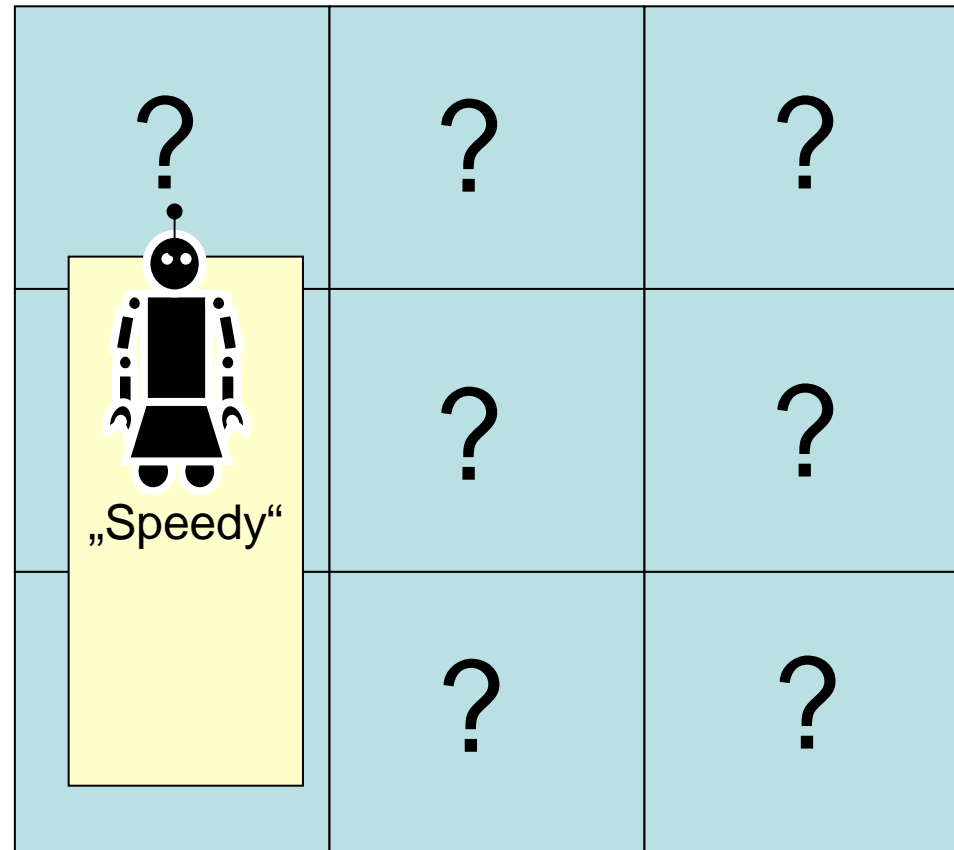
- Modularity at every level (sensor-actuator,,)
- Adaptivity of components behavior at all levels (motion position, speed, accuracy,)
-

Contribute to the theory and application of learning in artificial systems:

- generation of skills by experience/imitation/ demonstration.
- learning of objects/properties w.r.t its environment/task context
- sharing knowledge/skills between the actors (robot google)

Explore and validate the use of:

- Motion/task planning in everyday's environments
- use and produce landmarks
- "Reasoning": monitoring progress of the task execution
- Affordances



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