# Proseminar Roboter und Aktivmedien

## 8.12.2008:
## _Robots for Education and Entertainment_

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# *What means a „Robot for Education and Entertainment"?*

**It is a robot designed for educational or entertainment purposes.**

- *Educational purpose means: teach how to program a robot.*
- *Entertainment purpose means: not designed for utilitarian use.*

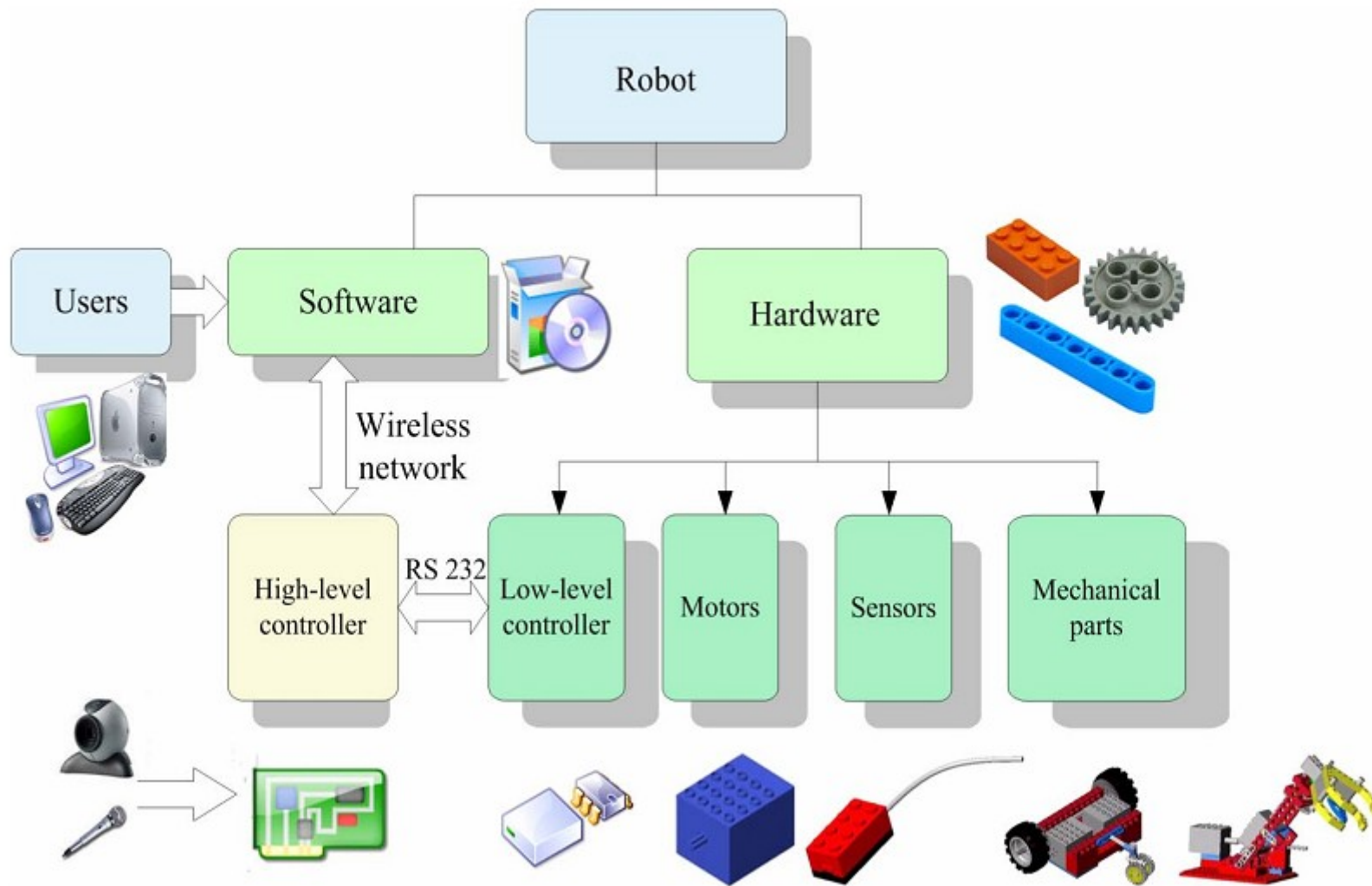*In some cases, these two purposes are combined*

⟶ Edutainment Robots

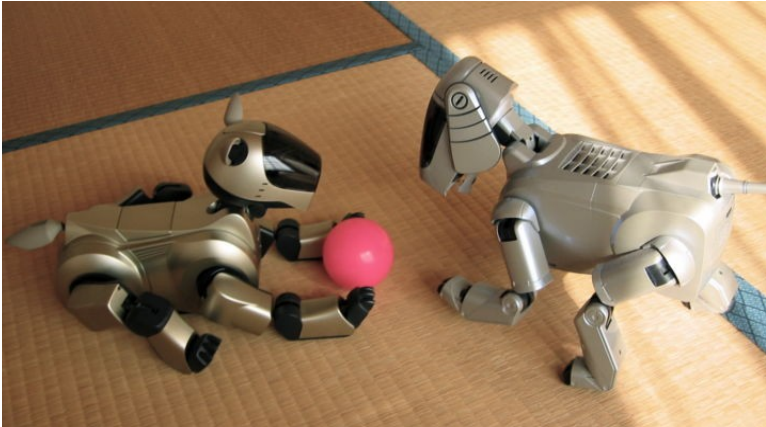# The Telebots-Project (TAMS-Group)

- *Educational robot system which was designed for teaching students how to build and program a robot*

- *Based on LEGO bricks*
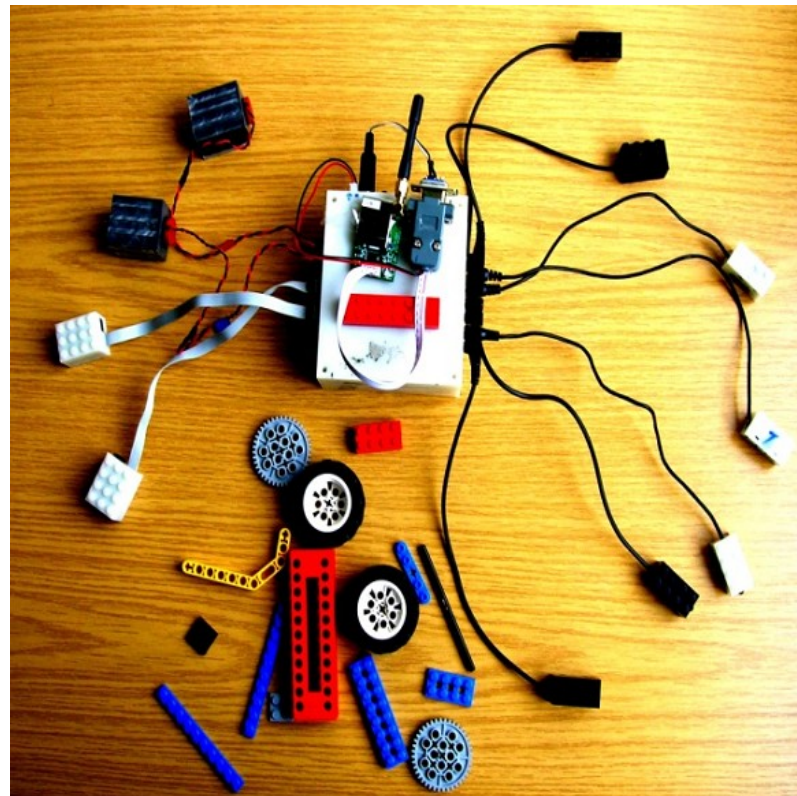
# The Telebot-System -How does it work?

# *Entertainment Robots*

Robots for Education&Entertainment

# Tiger Electronics/Hasbro (US)

-TE was founded in 1978 by Randy Rissman&Roger
 Shiffman
-bought by toy production company Hasbro in 1998
-most famous robotic products:



Furby



Furreal Friends



The I-Dog Series

# *Furby*

- First public appearance at the International Toy Fair in 1998
- Communicates via infrared
- Cams&gears move mouth,ears
- Speaks its own language,is able to learn the national language
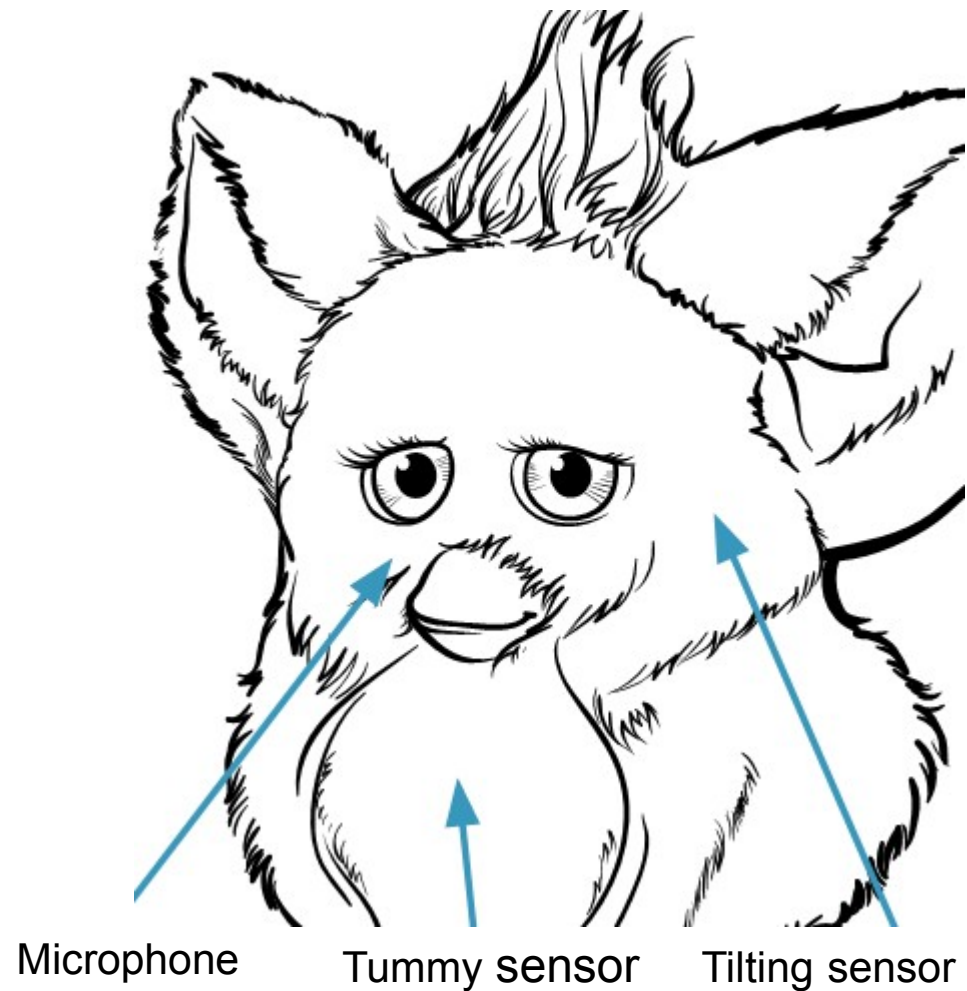- Reacts to several pre-programmed sentences
- Reacts to light

# Furby´s sensors



Back sensor



Beak sensor



Microphone    Tummy sensor    Tilting sensor

# *The i-Dog*

- *Reacts to music from an external source*
- *"dances" to the beat of the music*
- *Has several buttons to allow interaction with the user*
- *Shows various "emotions" by varying light patterns*
- *There are several different shapes of the concept such as i-Cat,i-Cy(Penguin shaped),Spi-Dog etc.*

# *Entertainment Robots developed by Sony*



QRIO
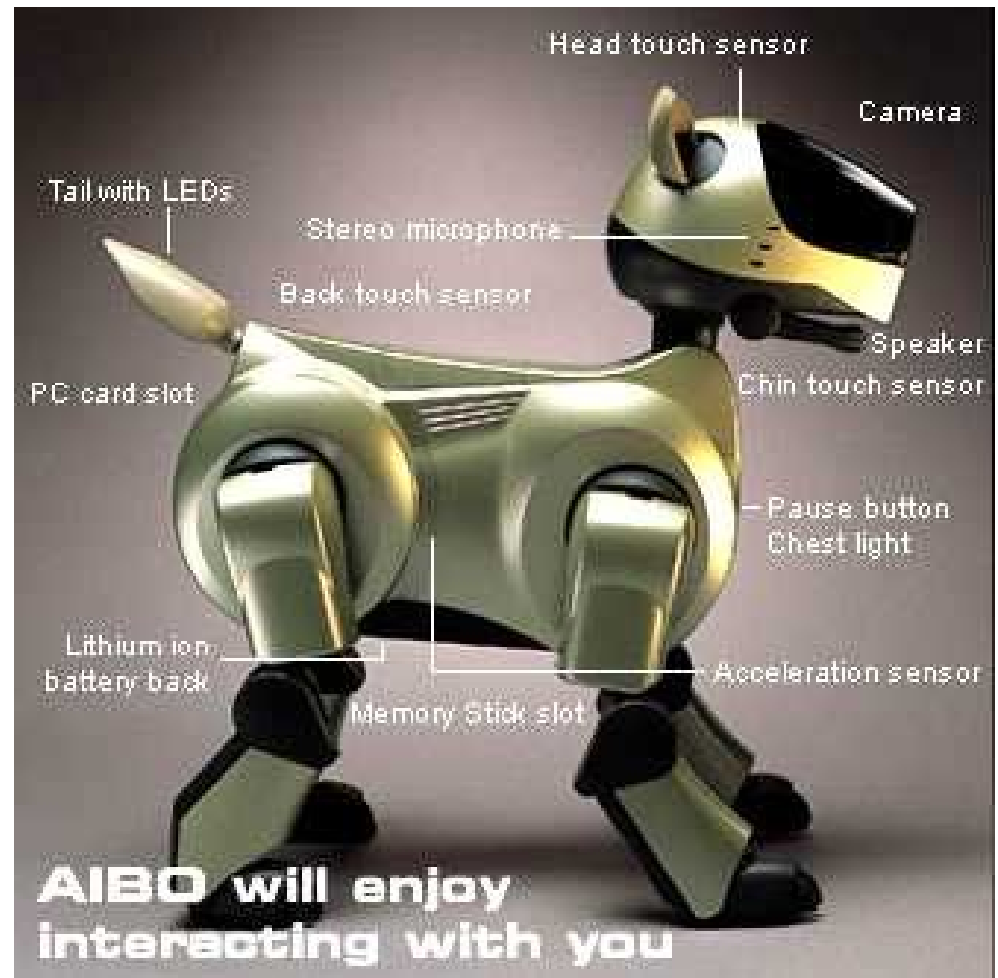
AIBO

# AIBO-*A*rtificial *I*ntelligence Ro*BO*t

-first sold on the internet in 1999

-recognizes voices

-regognizes its charging station

-can be extended by AIBOware

-can be modified by Sony´s „R-Code" language



AIBO will enjoy interacting with you

# QRIO-**Q**uest for Cu**RIO**sity

-first introduced in 2000,successor in 2002

-58 cm tall,weighing 7 kg

-recognizes voices and faces

-japanese word pool of about 60.000 words

-the first and fastest running humanoid robot (Guinness World Record 2005)

-other features: jumping,story telling,stair climbing, singing,dancing etc.

# *WowWee*

*-was founded in 1988*

Robots for Education&Entertainment

# The Tri-Bot

-successor of the RoboSapien
-high mobility,3-wheeled,can move
 in 8 directions
-has a „pop-top" head and animated
 eyebrows
-fast talking
-movement-sensor
-reacts to the environment by giving comments
-controlled by a tilt-sensitive remote-control
-can also move autonomously
-includes a game function&an alarm function
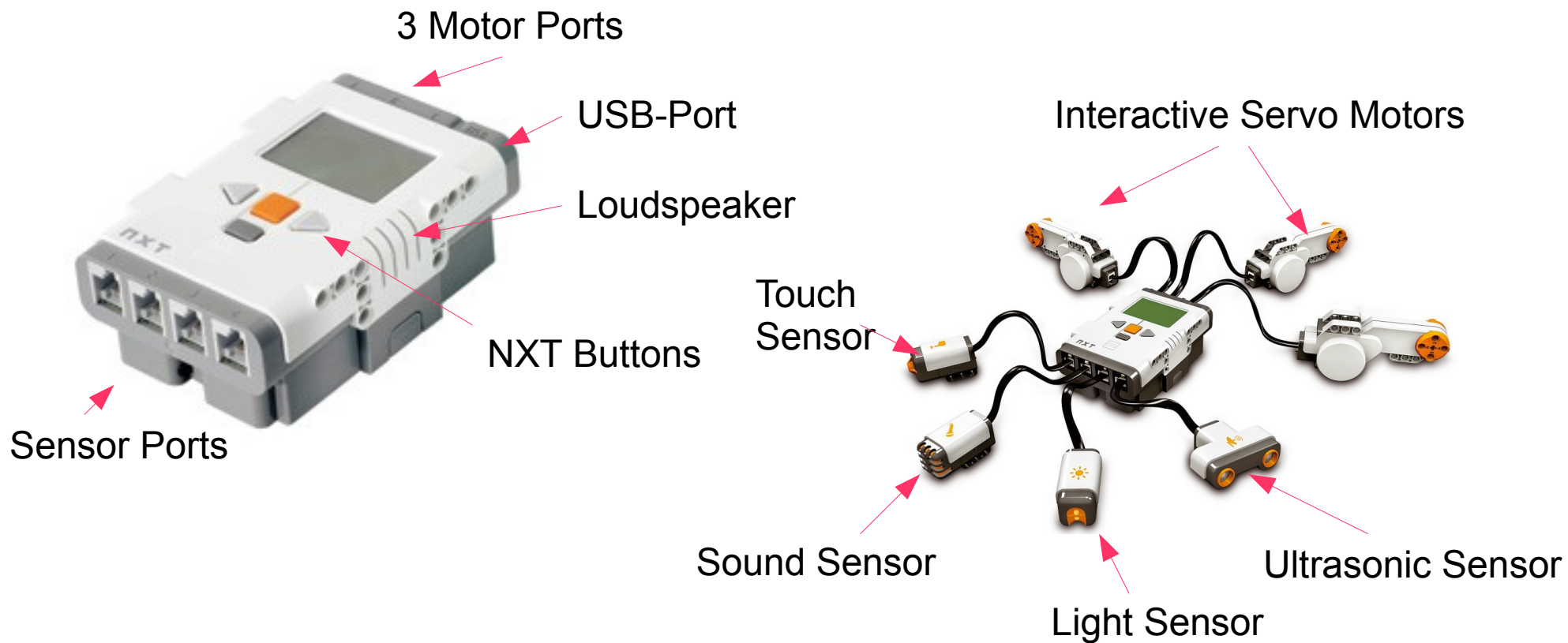
# *Edutainment Robots: LEGO Mindstorms*

# *The History of LEGO Mindstorms*

-1998: The Robotics Invention
   System (RIS)
   -based on the programmable
    brick RCX
   -the RCX is programmed by
    downloading a program from
    a PC by infrared technology
   -interaction between two or
    more RCX bricks is possible

# *The History of LEGO Mindstorms*

*-2006: LEGO Mindstorms NXT,the NXT brick*
*-gets input from up tp four sensors*



3 Motor Ports

USB-Port

Loudspeaker

NXT Buttons

Sensor Ports

Interactive Servo Motors

Touch Sensor

Sound Sensor

Light Sensor

Ultrasonic Sensor

# How LEGO Mindstorms works

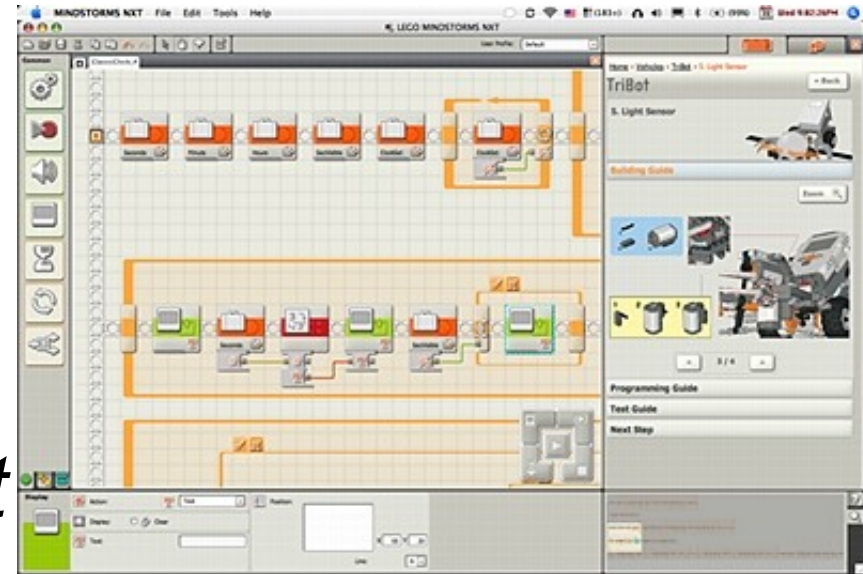1. Design and build your robot

2. Program your robot

3. Communicate with your robot
    -per USB

                    or

    -per Bluetooth

4. Test and improve your robot

# For further information

**Please visit**

http://tams-www.informatik.uni-hamburg.de/
http://en.wikipedia.org/wiki/Entertainment_robot
http://en.wikipedia.org/wiki/Aibo
http://de.wikipedia.org/wiki/Aibo
http://en.wikipedia.org/wiki/Qrio
http://mindstorms.lego.com/
http://www.wowwee.com/
http://www.hasbro.com/tiger/idog/

**and enjoy!There´s so much more to discover!**

Robots for Education&Entertainment