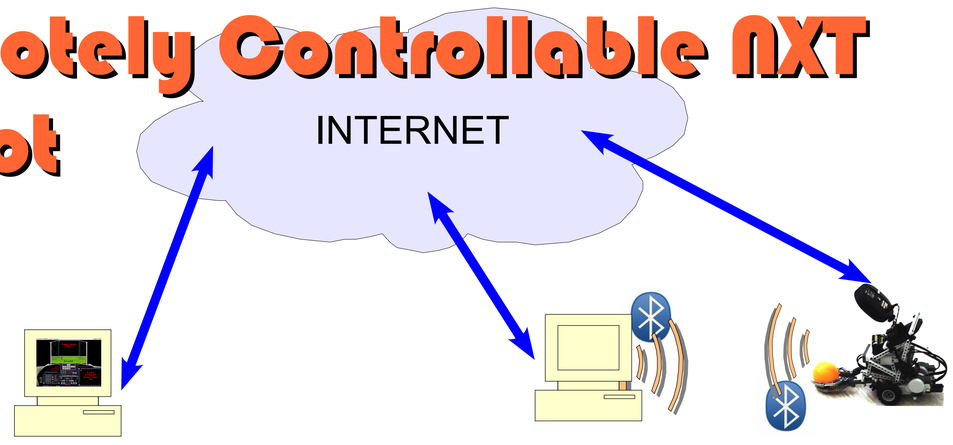
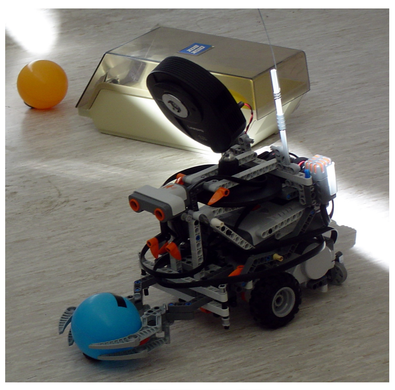
USING ROBOTICS TO MOTIVATE STUDENTS IN HIGHER EDUCATION

Robotic Laboratory at Eszterházy Károly College

Remotely Controllable NXT Robot

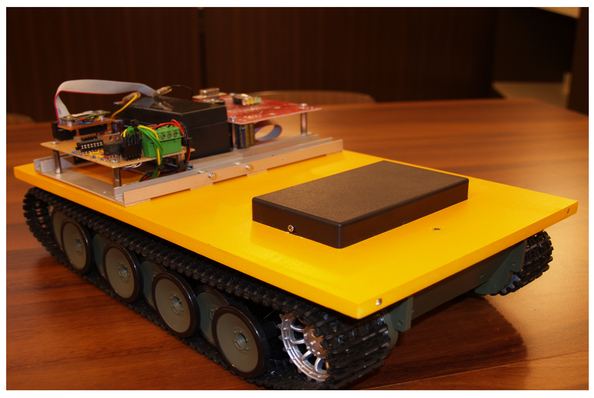


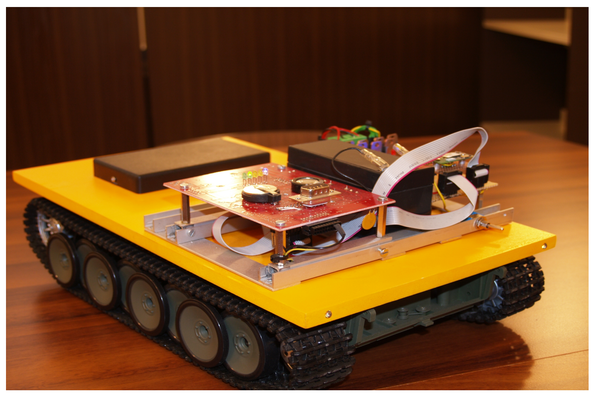


The public can control this robot based on NXT remotely through INTERNET, as it was introduced at Researcher's Night 2009. Its user interface on PC is similar to a game-console. This robot had been constructed and programmed by one of our students.

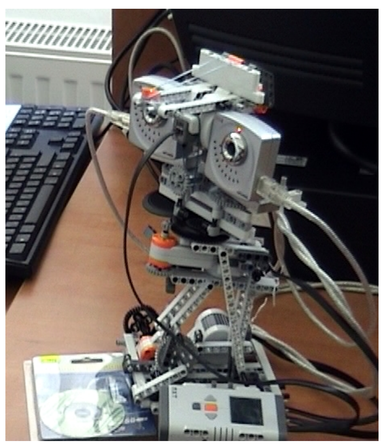
Remotely Controllable Robot Tank

At the Researcher's Night 2009, a robot tank was exhibited in our institute. This tank had been constructed and programmed by our students, with the help of Agria Computer Kft. The tank can be controlled through Bluetooth, with a handsome user interface on PC, where the messages going back and forth are displayed.

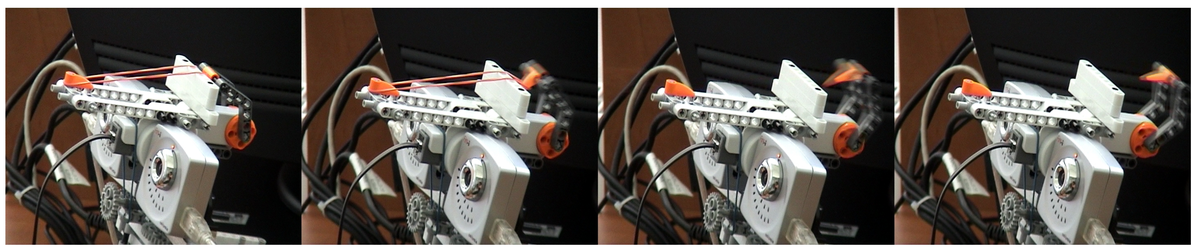




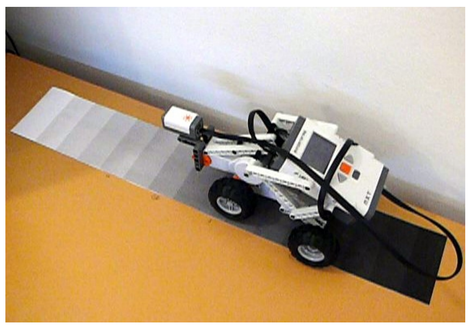
µHead Project



In tracking mode, the robot is able to focus on an object using its two "eyes". The object is followed by the cameras and the "head" so that the object should be preferably projected onto the middle of the camera images.
The object can be followed in two different ways, either by a pre-set color, preferably of a medium-sized ball, or by an object-oriented human face.
In designed-shooting mode, between the two cameras there is a gum shooting. This mode works also with color and face tracking. The robot itself cannot shoot, but first the program must sharpen the image.
1 meter is the most accurate targeting, so the robot can find the target about 6-7 times from 10.



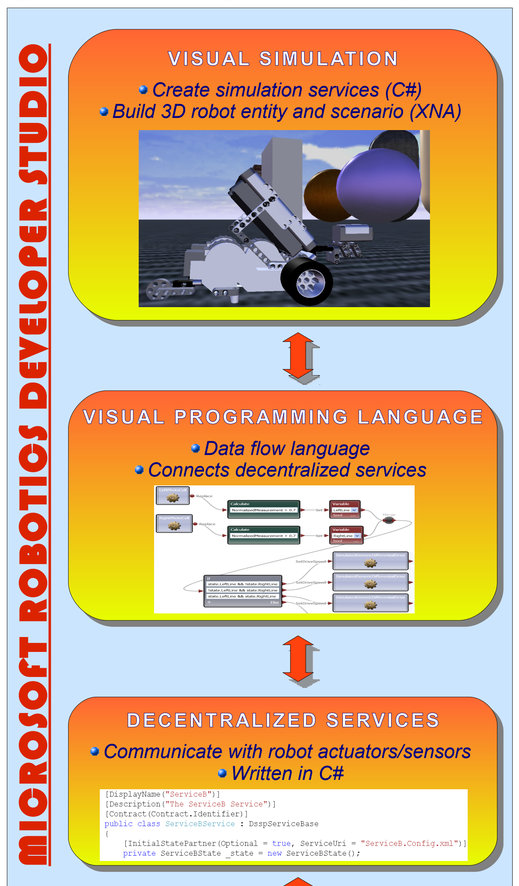
NXT robot-aided teaching of algorithm

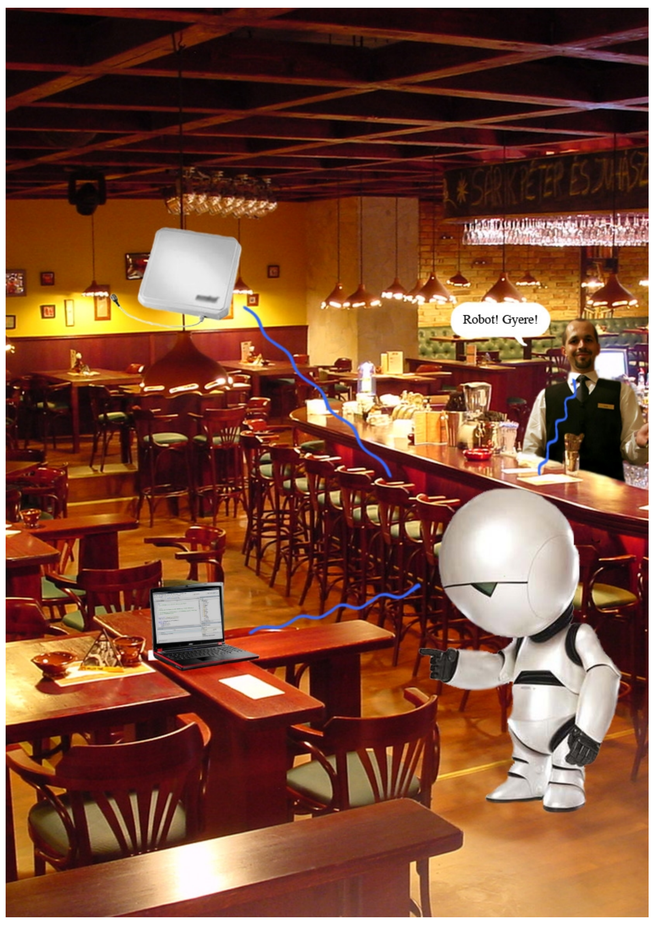


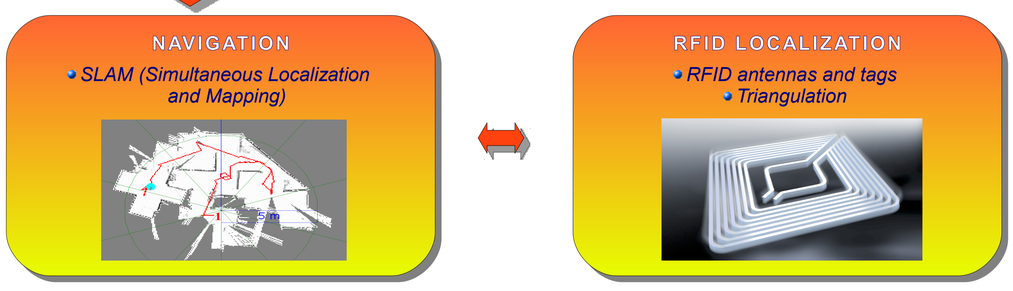
NXT robot (Szimatszörény) can choose a gray-sample from a range of gray-colors.
Firstly the (binary) Pathfinder looks at the sample, then it finds the good shade of color based on binary search.

Delivery by Robots using RFID-based Navigation

In cooperation with Agria Computer Kft., our laboratory draws several students into the development of a robot which is going to be able to deliver objects to locations specified by RFID technology.
Consider such a possible application (cf. the picture below) that our robot acts as a waiter, carrying trays in a fast-food restaurant, where guests are identified by RFID tags given to them by the cashier previously.







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