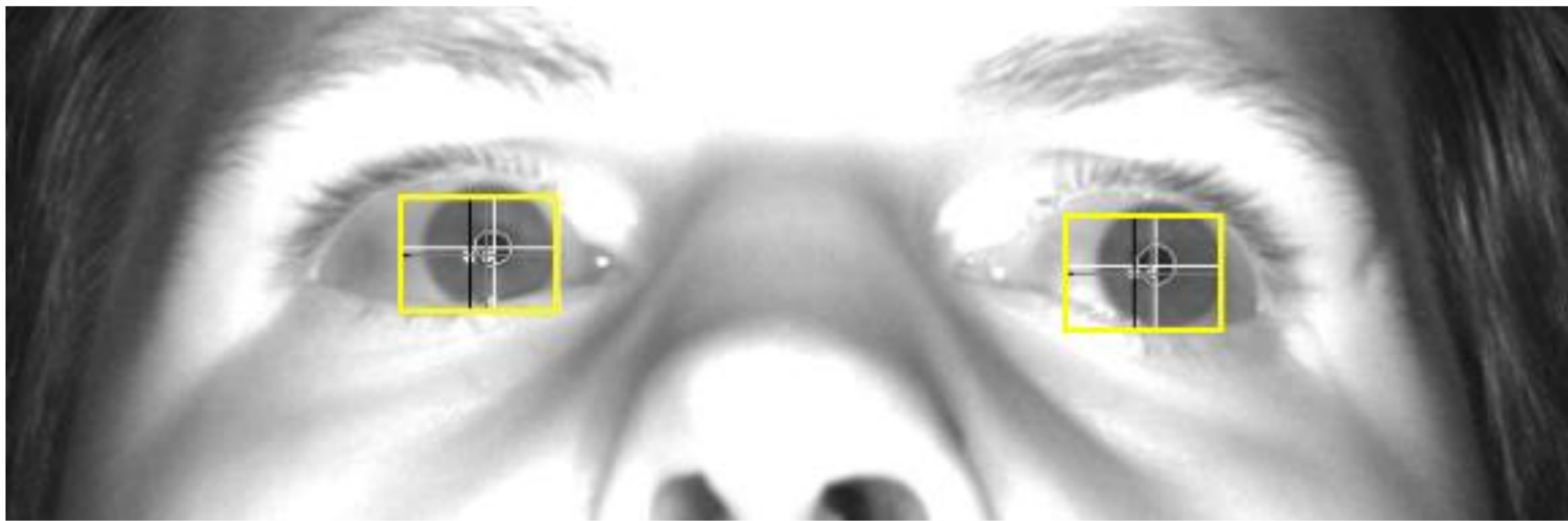
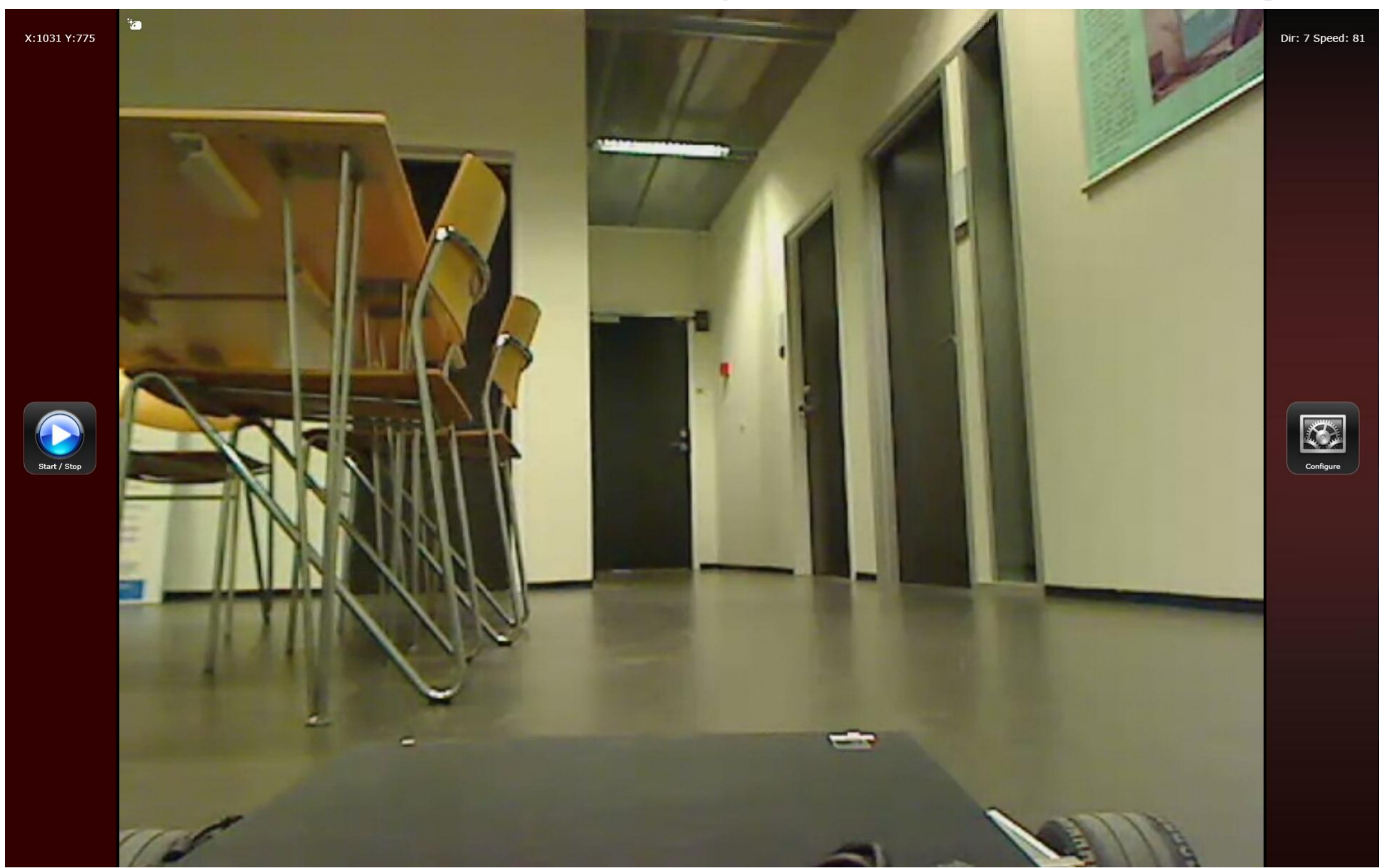


# Gaze-controlled mobile robot

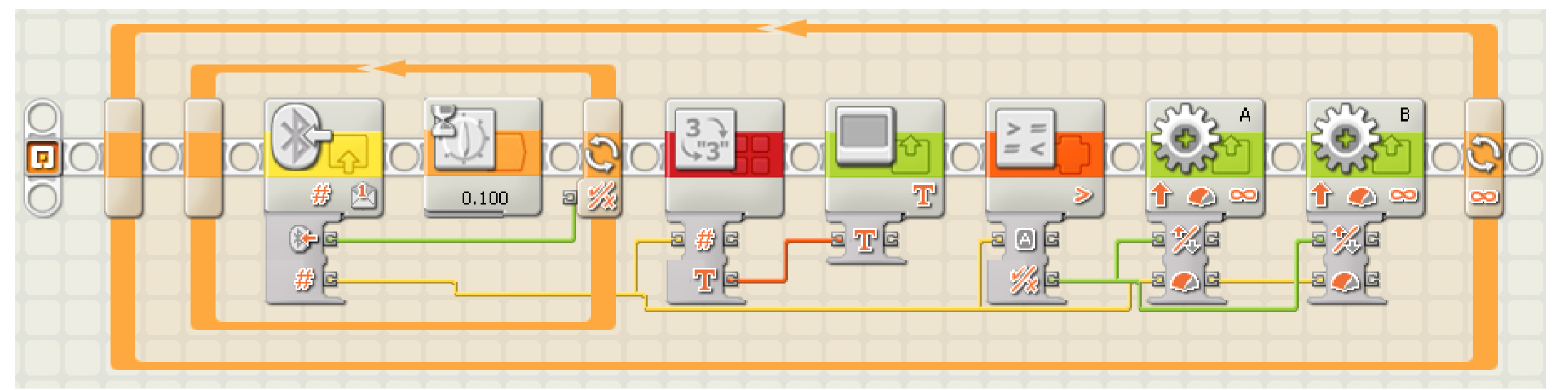
A cheap and fast LEGO<sup>®</sup>-based prototype to  
test some man-machine interaction



Just look where you want to go!



Alexandre Alapetite & Martin Thall, 2008



## Eye-tracking

- State-of-the-art commercial desktop eye-tracker
- Next version: ITU house-made Webcam-based eye-tracker

## Purpose

- Feasibility of fast-prototyping using LEGO
- Platform to test HCI ideas

## Future work

- Connection to a real **wheel-chair**
- Eye + head-tracking
- Human-robot interaction tests

## Programming

- Robot: LEGO NXT-G (or NXC)
- Computers: Microsoft C#.NET
- Bluetooth: robot ↔ laptop
- Wi-Fi: laptop ↔ desktop

## Hardware cost

- Chassis: 200 DKK / 27€
- LEGO non-NXT: 230 DKK / 30€
- LEGO NXT (brick, motors) (×1 or ×2): 1800 DKK / 180€
- Total cost (2008-11):
  - ~2250 DKK / **300€** (simple);
  - ~4050 DKK / 540€ (×2 motors)
  - ~**2 hours of work**