Ball positioning using OpenCV and Arduino
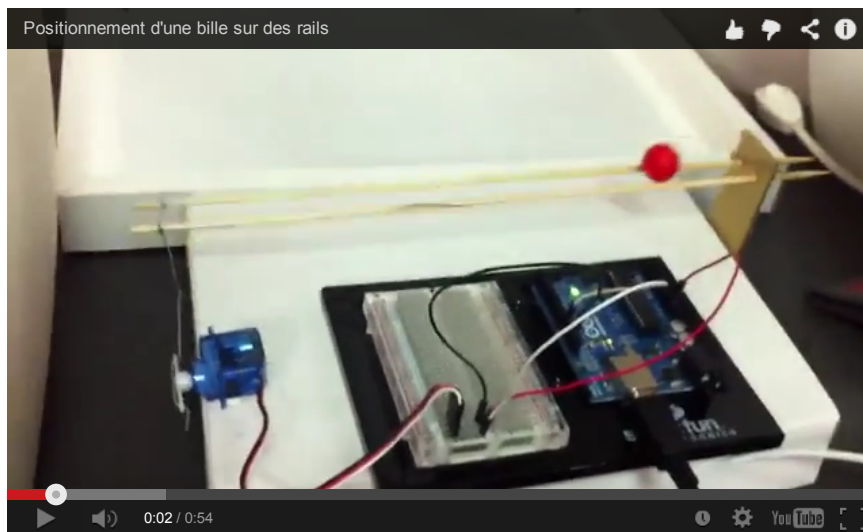
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1. Overview

See ["Pan tracking webcam using OpenCV and Arduino"](#) for a similar project.

1.1. Hardware

- A Philips SPC900NC webcam was used, but any webcam should works.
- The Arduino board and the motor come from the Arduino kit prepared by Sparkfun. See http://www.sparkfun.com/products/10173.

1.2. Example

A video showing how the ball is moved to a target position:

(You need Javascript or a HTML5 capable browser to play the video.)

2. Source code

There are 2 programs:

1. the OpenCV program which track the ball and send its position to Arduino. You can download it from http://doc.tuxee.net/ball.cc.

2. the Arduino program which receive the ball position and update the rails altitude to make the ball reach the target position. You can download it from http://doc.tuxee.net/ball-arduino.cc.

The protocol is very simple between OpenCV and Arduino: the program transmit one integer per line through the serial connection (using the USB connection or a RS232 port). Each integers gives the position (in the range 0-640) of the ball.