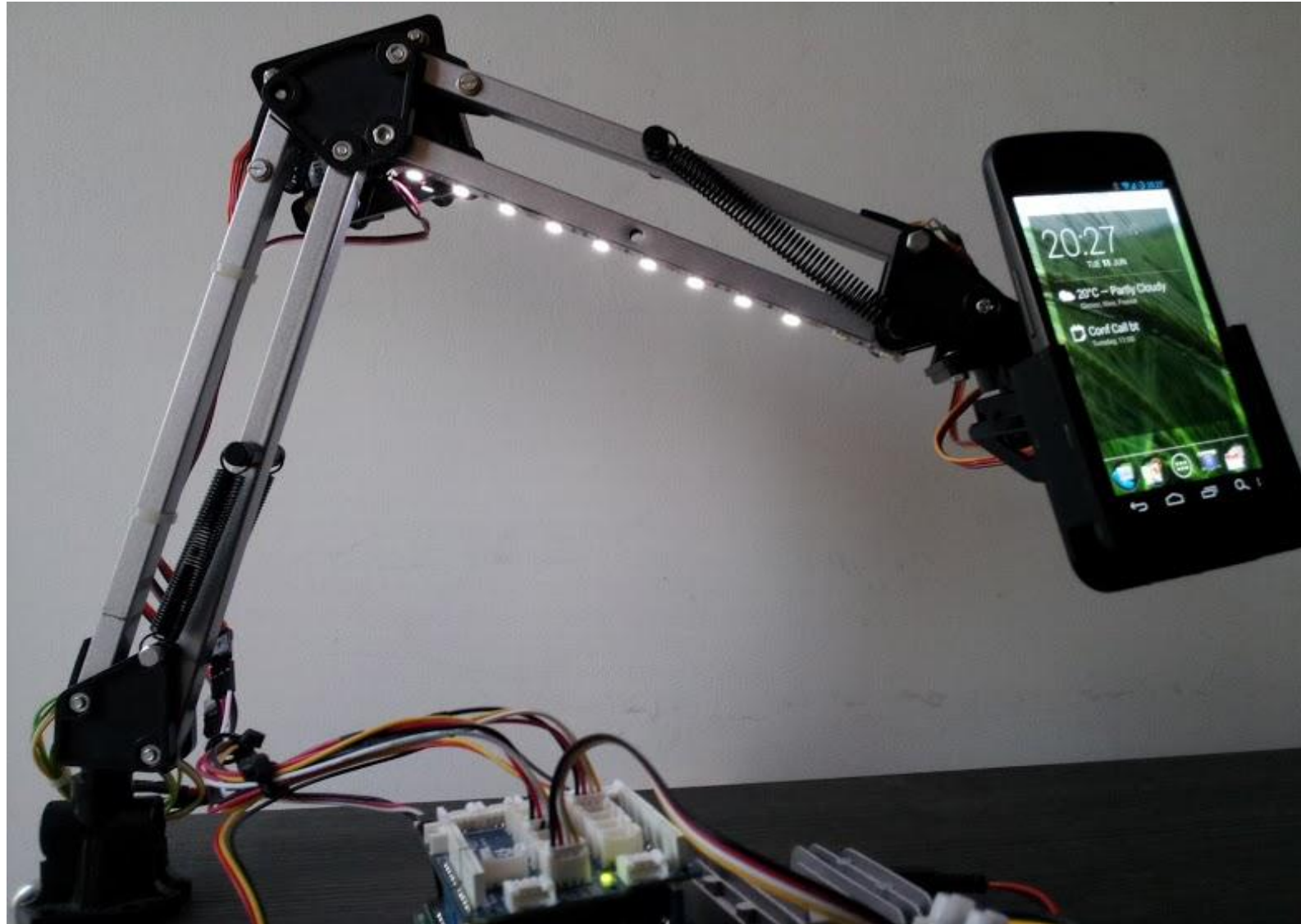# Project Smartlamp
Arduino & Android

Smartlamp, what?

- Android phone that does Face Detection
- Arduino commands servo motors
- Tracks faces
- Has some character

Motivation: Pinokio

Motivation: Pinokio

- Animatronic lamp
- 100% fabriqué à la main
- OpenCV
- MacBook Pro
- Not Open Source

Motivation: Smartlamp

- Demo of power of pocket computing

- 100% Open Source
- 100% Open Hardware
- Ludo-Éducatif
- Based on commodity goods
- Few tools needed

BOM - mechanic
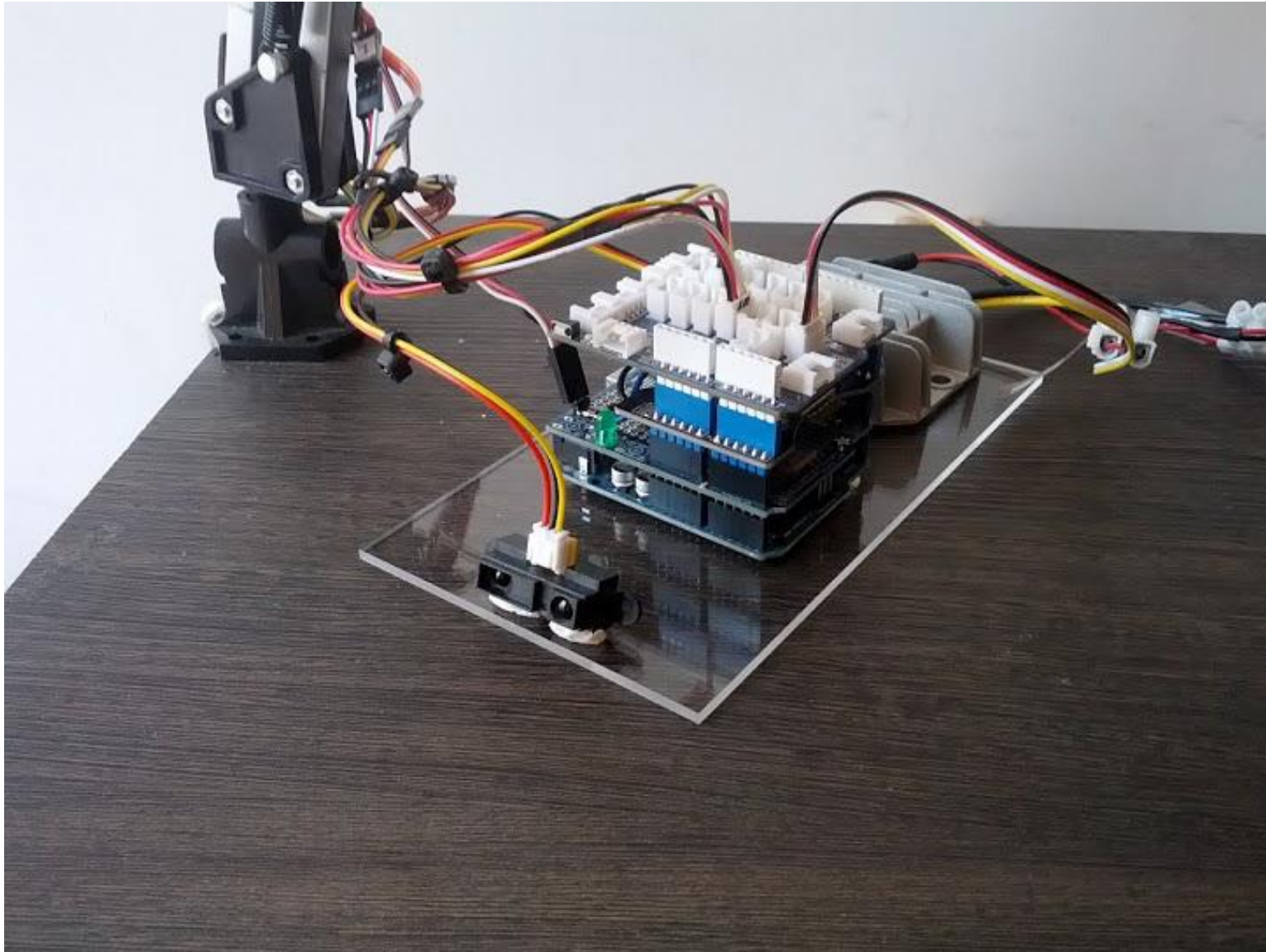

Lampe de bureau articulée Techno
de MATHIAS LUMINAIRES
★★★★☆ ✔ (5 commentaires client)

Prix : EUR 18,68

Habituellement expédié sous 2 à 3 jours.
Expédié et vendu par HOME BOULEVARD.

+

BOM Arduino

Arduino

- 2 strong servo motors metal gear
- 1 tilt / pan head
- Arduino board
- Bluetooth board
- Grove adapter board
- MOSFET for LEDs
- 12V power supply + DC/DC converter 5V

Android

- Galaxy Nexus
- Connection via Bluetooth
- 20 scans per second
- Up to 30 faces tracked
- Commands left, right, back, forward
- Camera SurfaceView

BOM Lasercut 3mm Acrylic

BOM Lasercut

- SVG inkscape
- Formulor.de
- Hinges
- Head
- Plus: screws, glue, drill

Software Arduino

- State machine
- Servos need to be slowed down
- Position tracked
- Phones have different speeds
- Left, Right, Back, Forward (personality)
- Search algorithm

Software Android

Software Android

- SurfaceView for camera image acquisition

- Coordinate transformation and mirroring

- Bluetooth connection

- OSD

- Communication Feedback

Questions ?

- Smartlamp brought to you by CKAB

- More info on ckab.com

- Thank you for listening