

ROBOT PRINCIPAL

www.armadeus.com

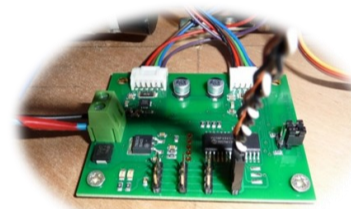


ARM 200Mhz, FPGA
(SPARTAN3E),
RJ45, I2C
ADC/DAC,
GPIO, ...

Linux 2.6.29 compilé avec noyau temps réel XENOMAI

Pourquoi faire simple quand ... !

Asservissement



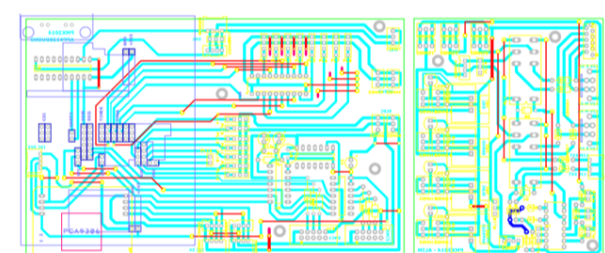
MD25 + EMG30 (Moteurs et codeurs commandé par I2c)

Collaboration avec ESIAL

Robotik à l'aide d'une carte MBED

Électronique via

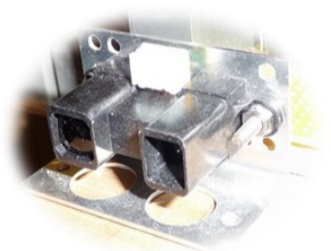
« RS Design Spark »



Vision

SHARP GP2

I can see YOU... !

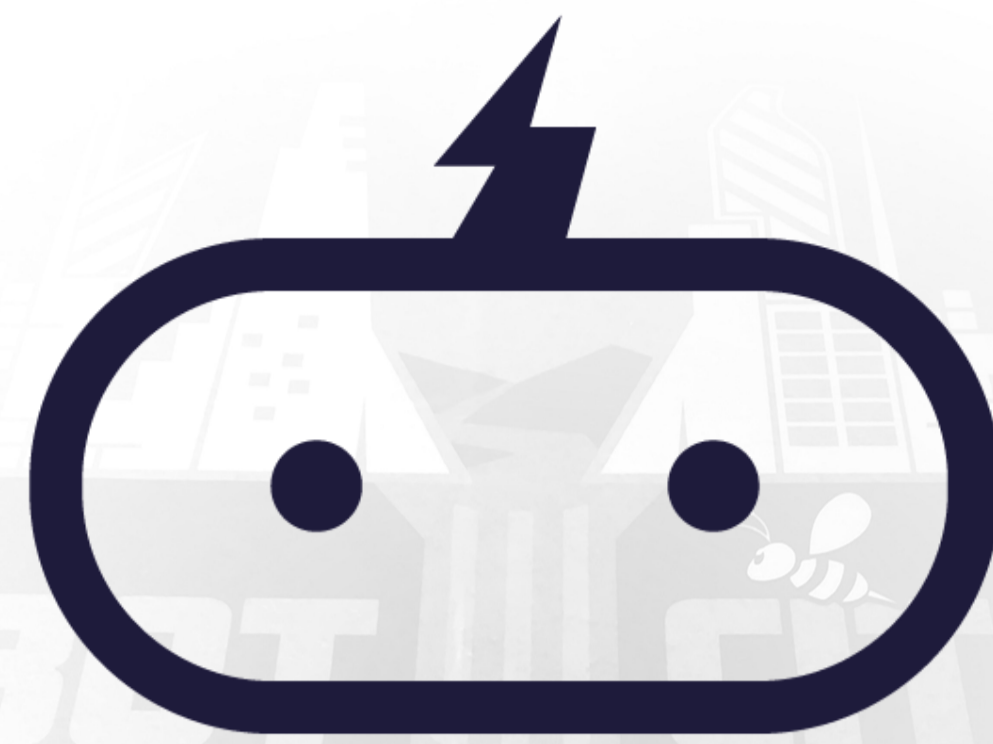
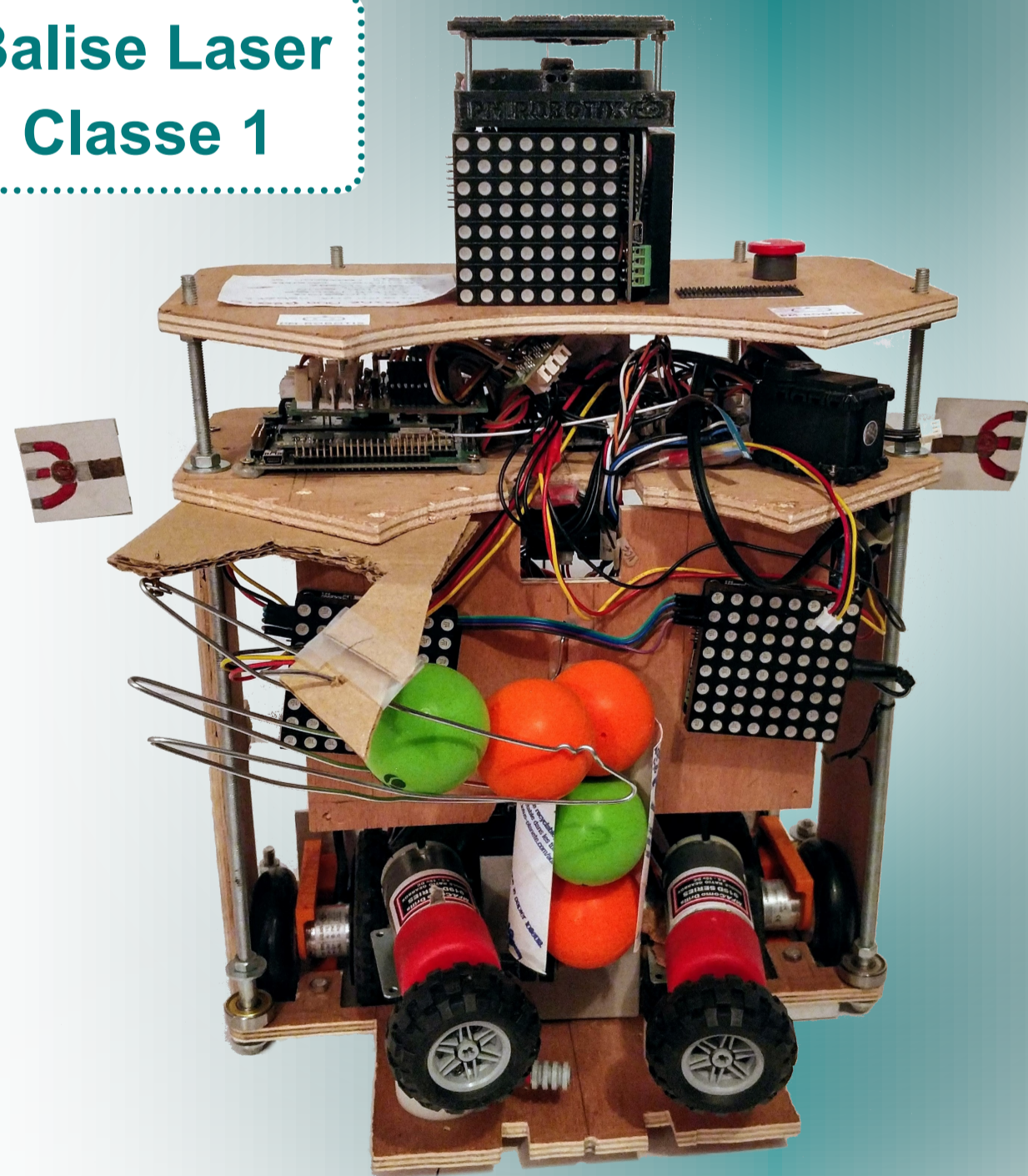


Bras articulés

Via des servomoteurs dynamixel AX-12 Servomoteurs std commandés par FPGA

Balise Laser

Classe 1



PM-ROBOTIX

De la récup, du lego et des idées simples...

Christophe CHAUDELET

Christophe, Adélaïde et Marianne DEBAUCHE

www.pm-robotix.eu

www.twitter.com/PM_ROBOTIX

www.facebook.com/PMROBOTIX

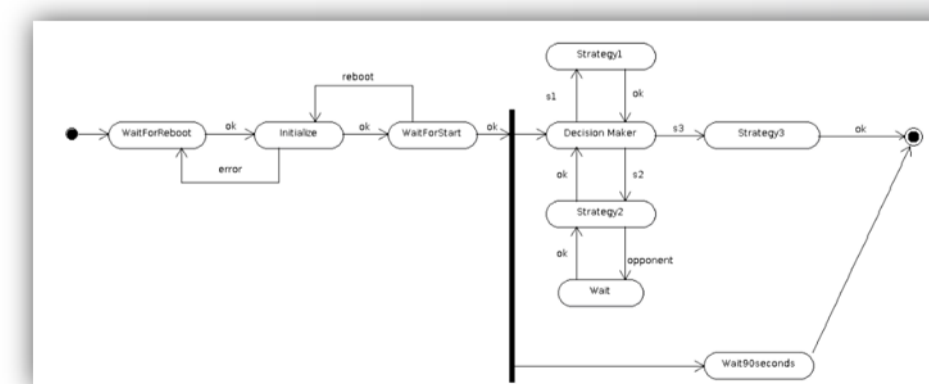
www.instagram.com/pmrobotix



Open Concerto

UN SEUL PROGRAMME COMMUN en C/C++

- Asservissement vitesse et position;
- Calcul de trajectoire;
- IA – Diagramme d'état + Prise de décision



ROBOT SECONDAIRE

avec nouvelle version Lego MindStorm EV3

et www.ev3dev.org

"ev3dev est un système d'exploitation Linux basé sur Debian qui fonctionne sur LEGO® MINDSTORMS EV3 et Raspberry Pi-powered BrickPi"



- SDcard linux debian personnalisée
- Programmation C/C++
- Communication par Wifi / USB



Multiplexeur et Détection

Connexion de 4 capteurs IR pour détecter devant et derrière

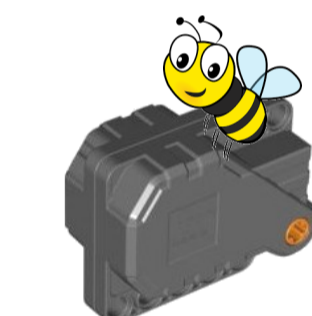


Motorisation

4 moteurs EV3 avec retour tachymétrique pour la motricité et la collecte de l'eau ...

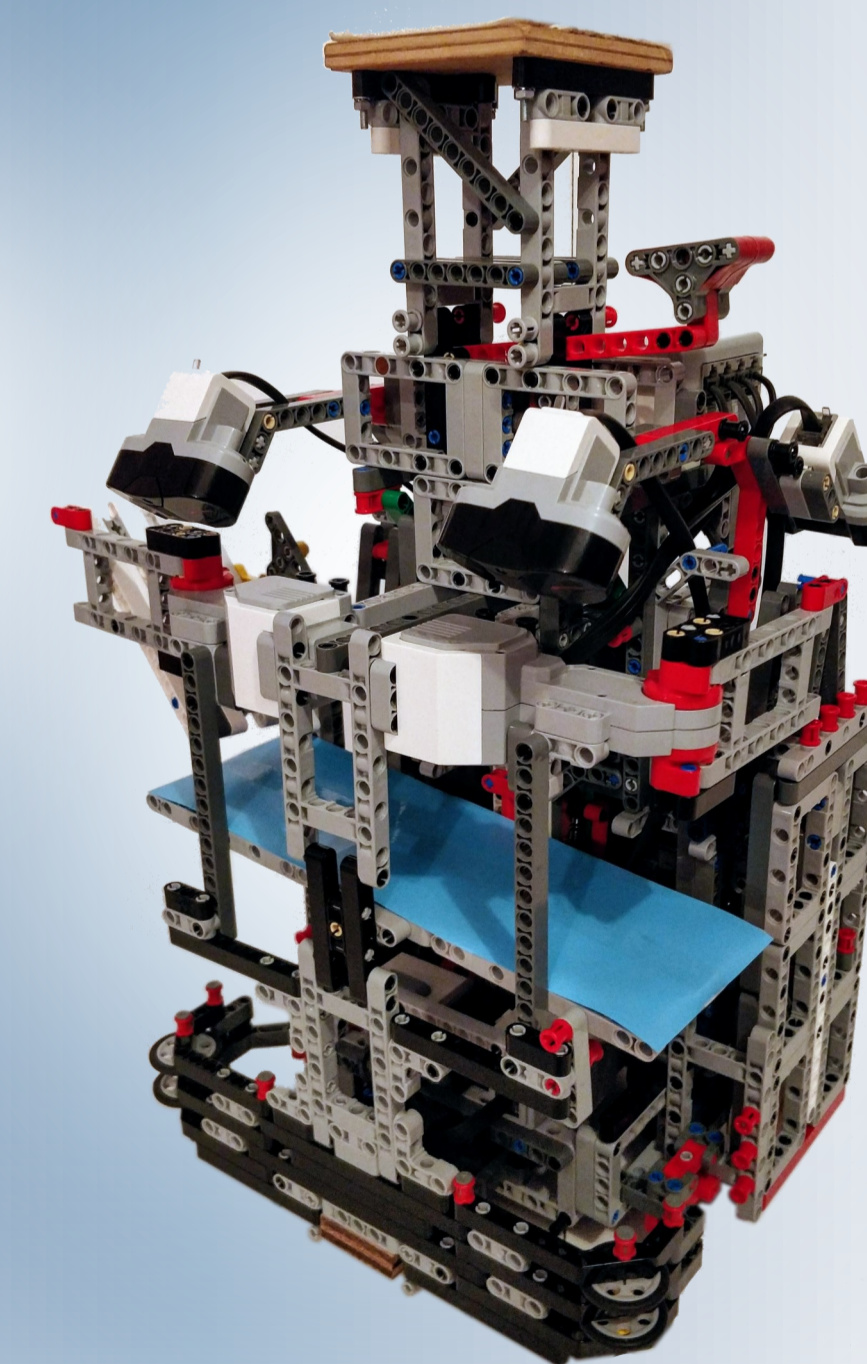
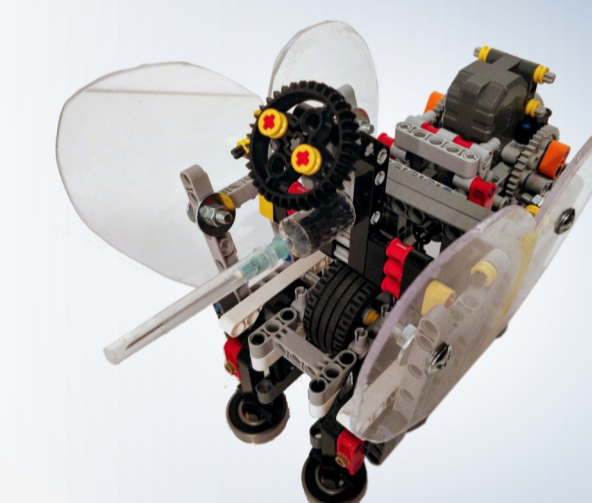


... et pour l'abeille, un moteur à friction !



Odométrie

Utilisation de 2 capteurs de rotation avec démultiplication



MAIN ROBOT

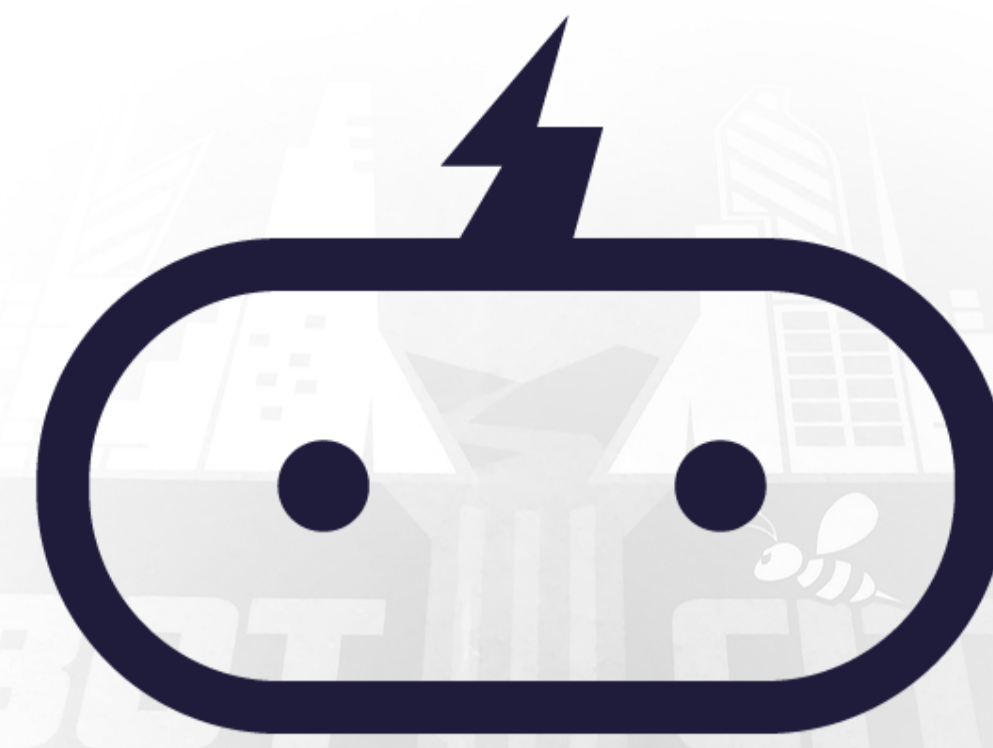
www.armadeus.com



ARM 200Mhz, FPGA
(SPARTAN3E),
RJ45, I2C
ADC/DAC,
GPIO, ...

Linux 2.6.29 compiled with real-time kernel XENOMAI

Why make it simple when ...



PM-ROBOTIX

Recycle, lego and simples ideas...

Christophe CHAUDELET
Christophe, Adélaïde et Marianne DEBAUCHE

www.pm-robotix.eu

www.twitter.com/PM_ROBOTIX

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www.instagram.com/pmrobotix

SECONDARY ROBOT

with new version of Lego MindStorm EV3
and www.ev3dev.org

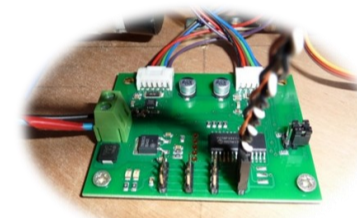
"ev3dev is a Debian Linux-based operating system that runs on LEGO® MINDSTORMS EV3 and Raspberry Pi-powered BrickPi"



- SDcard linux debian custom
- Programming C/C++
- Communication by Wifi / USB

Thanks to the entire ev3dev team for all their work on this OS!

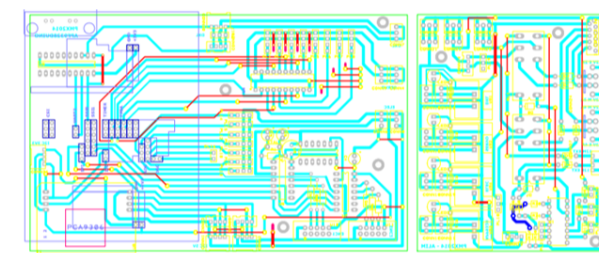
Asservissement



MD25 + EMG30
(Motors and encoders using I2c)
Collaboration with
ESIAL Robotik using MBED card

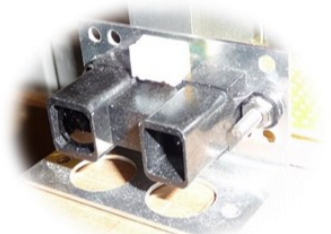
Electronic design with

« RS Design Spark »



Vision

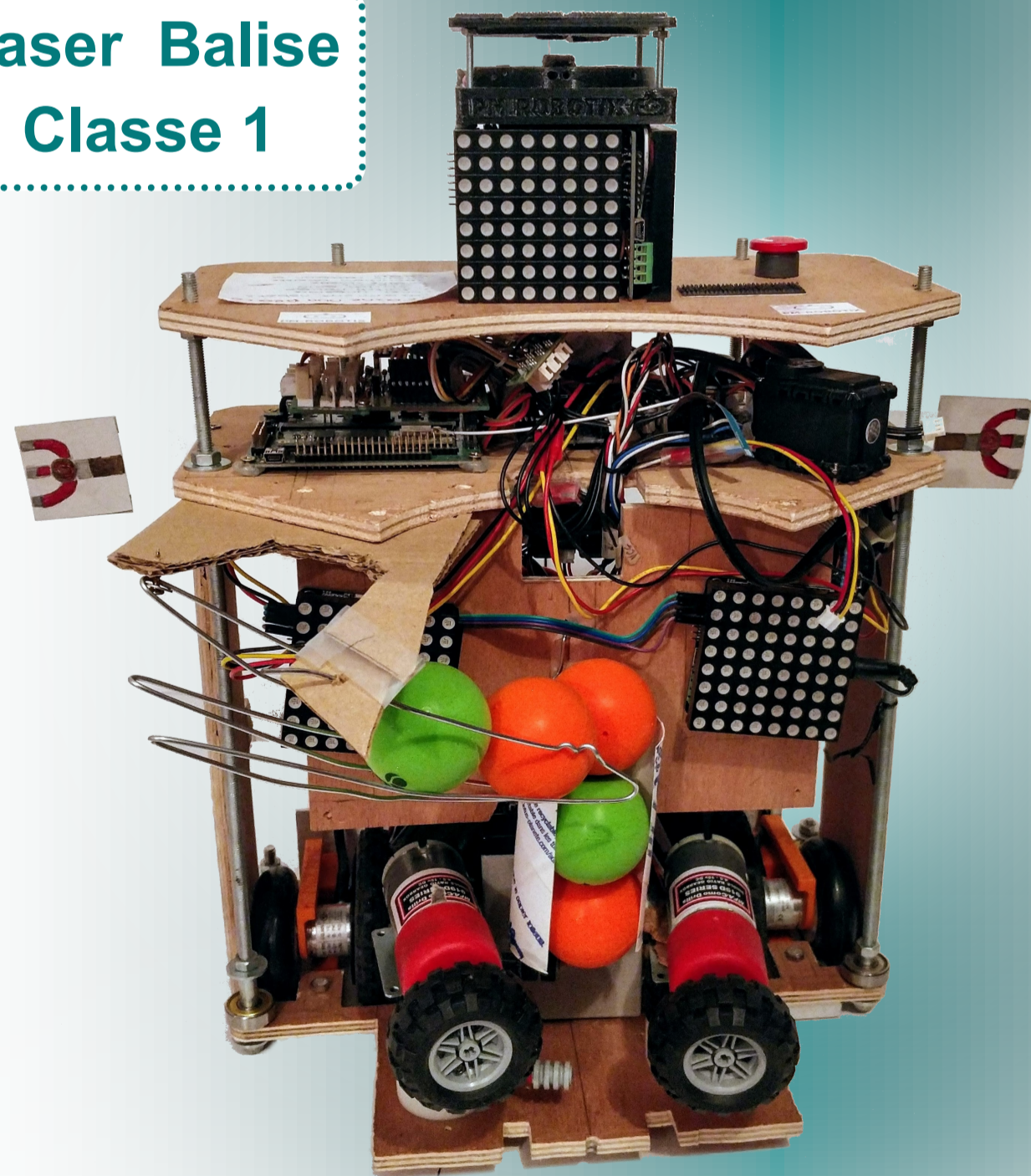
SHARP GP2
I can see YOU... !



Arms

With servomotors dynamixel AX-12
std Servomotors using FPGA

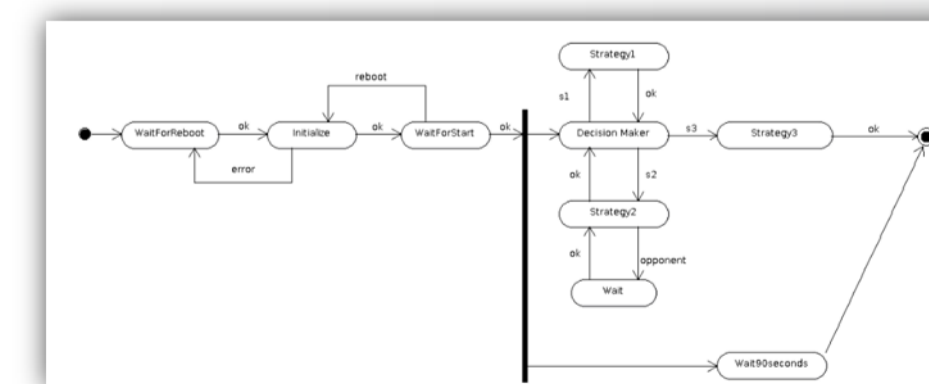
Laser Balise Classe 1



Open
Concerto

ONE COMMON PROGRAM WRITTEN IN C/C++

- Asservissement, speed and position;
- Trajectory path calculation;
- IA – State diagram + Decision maker



Multiplexer et Detection

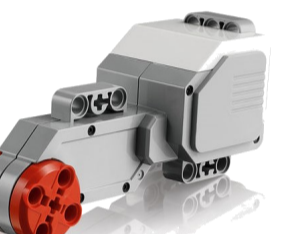


Connection of 4
sensors IR to see ahead
and behind



Motors

4 EV3 motors with
tachometer feed-
back for the motricity
and collecting the
water ...



Odometry



2 rotation sensors with gear
ratio to increase accuracy

... and for the bee,
a friction motor !

