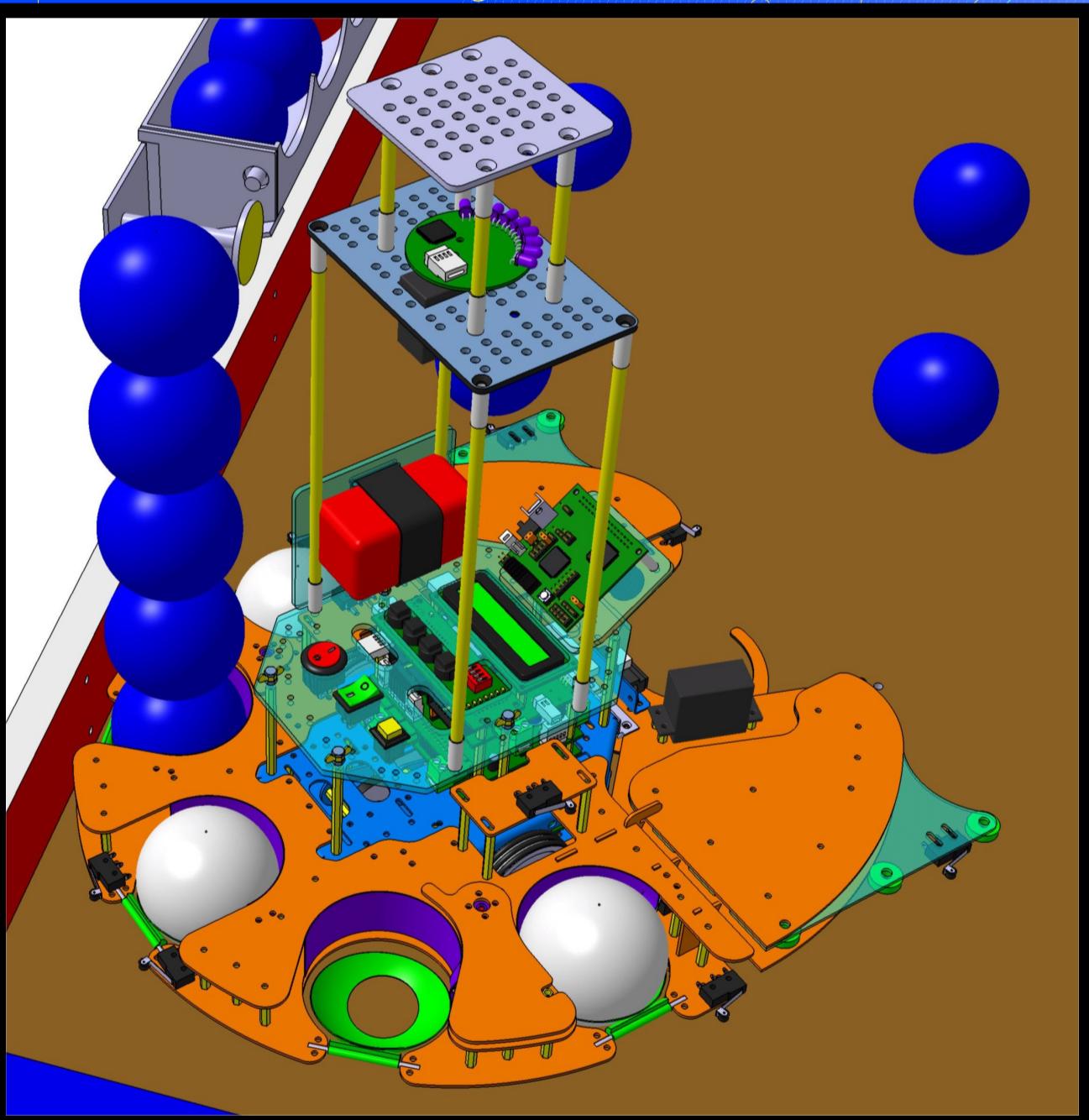




# Roboces Corchopán

## Alcalá University

# Topolino



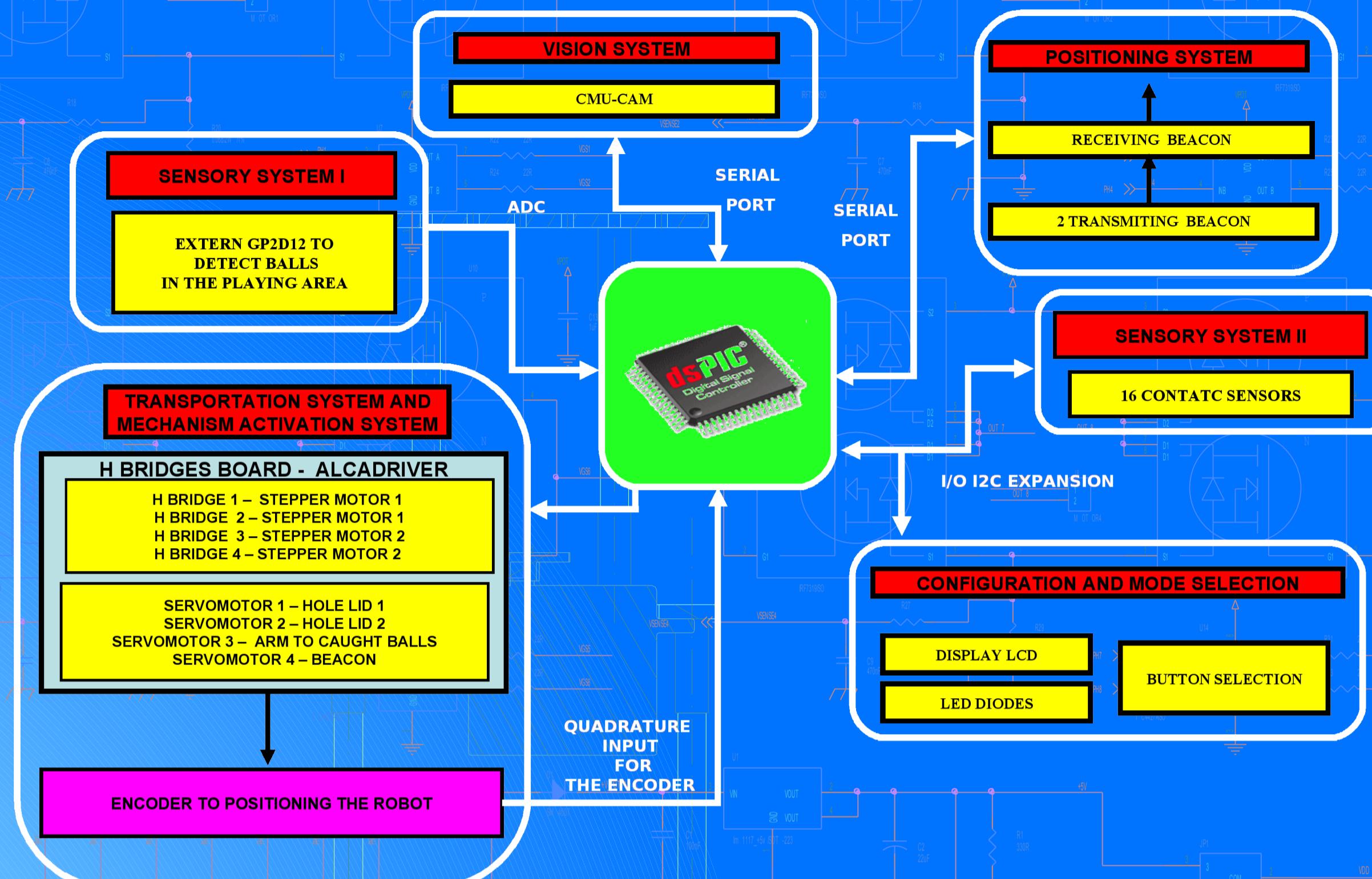
Department of electronics



ayudas  
hidráulicas s.l.

Acknowledgements: Special thanks to Ayudas Hidráulicas for the machining of wheels, to PROTOMAGA S.L. for machining of most of parts of structure and to Alcalá University for bringing us material to work.

### GENERAL DESCRIPTION OF THE ROBOT



### Software:

The source code is divided in two layers: lower level (or drivers) which manages the actuators and the sensors (implemented by state machines), and the upper level which controls the full robot intelligence (implemented with Petri nets), both levels are connected by means of global variables.

### Structure:

The structure is made of Aluminium (laser cut), milled PCB and methacrylate.

### Transportation:

Differential motion type, with 2 stepper motors in order to get more accuracy by a easy way.

### Computer programmes:

Catia (for the mechanical 3D design), Orcad (for the board design), MPLAB (for programming the processors).

### Power supply:

The robot uses lithium-polymer batteries of 11,1V 2400mA and 7,4 2400mA, which are shared into Power system(motors and servomotors) and logic system (circuit board and sensors).

### Balls gather:

We decided colours combination by means of a simply structure to get points and bonus points, although we can get balls one at time with the front system.