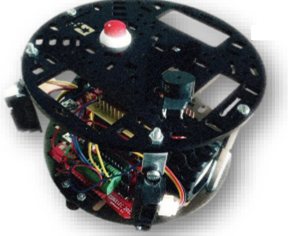
SAMBOT – Software Detail Design Requirements

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Introduction

SAMBOT is a tiny robot that is controlled by UART. It is composed of a master and a slave card. The first one controls the wheels depending of the information it receive from the second, which manages the sensors.

This document lists the requirements of the software architectural design.

Every requirement is composed of:

-One unique ID following this pattern: SAMBA\_XXX (Three digits).

-A name, which is always a small introduction of the requirement.

-A text, describing what is this requirement for.

SDDR\_001

Name: Detect Hole

Text: When the infrared sensor detect a gap in front of the robot it send the information to the MSP430g2231

Covers:

Module: GP2D120, Detect\_Hole

SDDR\_002

Name: Detect Obstacle

Text: The ultrasonic sensor detects the obstacles around the robot and send the information to the MSP430g2231

Covers:

Module: SRF02, Detect\_Obstacle

SDDR\_003

Name: Turn servomotor

Text: When the robot is in power ON mode the servomotor which support the ultrasonic sensor is activated.

Covers:

Module: Garen

SDDR\_004

Name: Move Forward

Text: The right and left wheels shall be activated into forward direction if there is no obstacles.

Covers:

Module: HS-422, Wheels\_Forward, Detect\_Obstacle

SDDR\_005

Name: Stop Wheels

Text: The right and left wheels are stopped

Covers:

Module: HS-422, Stop\_Wheels

SDDR\_006

Name: Turn the robot

Text: If the robot detects obstacles it must turn in function of where the obstacles are place

Covers:

Module: HS-422, Turn\_Robot

SDDR\_007

Name: Emergency Stop

Text: if a hole is detected, the wheels stop instantaneously

Covers:

Module: SRF02, Stop Wheels, Detect Hole

SDDR\_008

Name: Detect servomotor’s angle

Text: At every time the robot must know the angle of the servomotor in function of how it was at the starting position.

Covers:

Module: Detect\_Angle, HS-422

SDDR\_001

Name:

Text:

Covers:

Module:

SDDR\_001

Name:

Text:

Covers:

Module:

SDDR\_001

Name:

Text:

Covers:

Module: