Using Arduino to implement a smart object
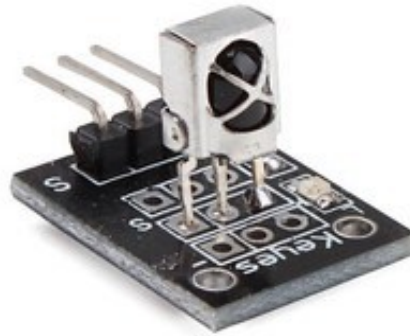
IR Bin

Fondamenti di Elaborazione Numerica dei Segnali Project
Giuseppe Gattulli – AA 2020-2021

POLITECNICO
MILANO 1863

Main Functions

- Opening and closing the bin by reading the infrared code generated by a remote control (IR remote library).

- The code read is interpreted by the IR receiver module that drives a servo motor (Servo library).

- When the bin is opened, the ultrasonic sensor checks whether a certain level has been reached or not, if so, the bin is full. In the latter case, the internal buzzer alerts the user through an alarm (Time Free Tone library).

Implementing technology

Servo motor SG90

KY-022 Infrared Sensor Module IR Wireless Remote Control Receiver

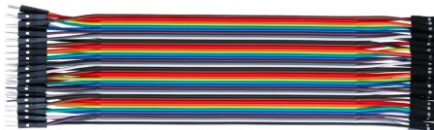Buzzer

HC-SR04 Ultrasonic Sensor

Arduino Uno

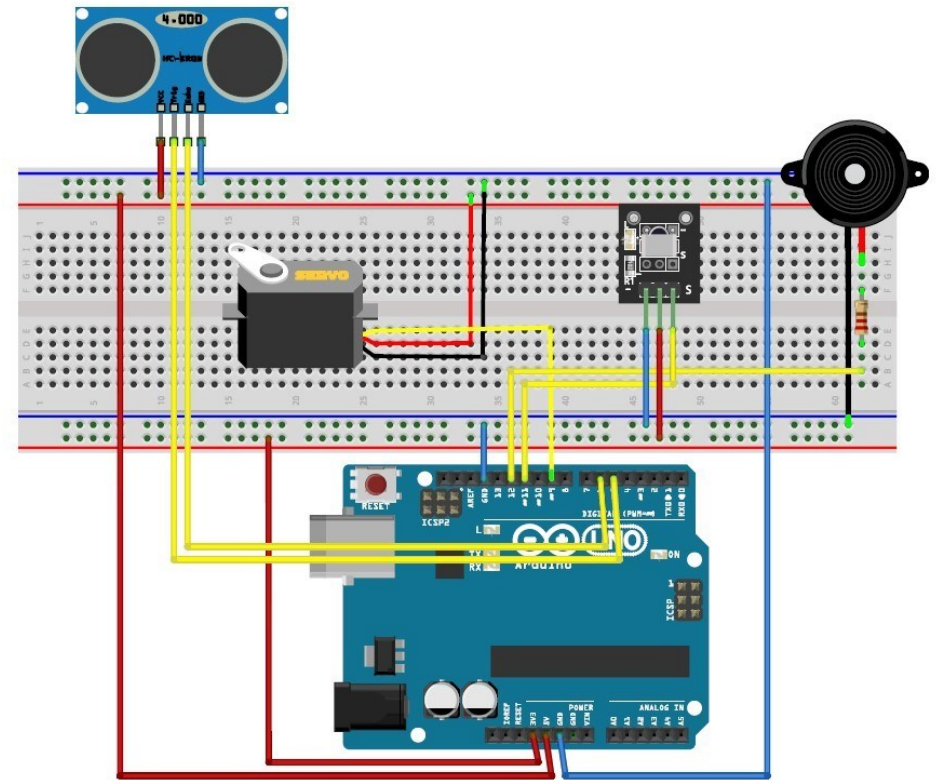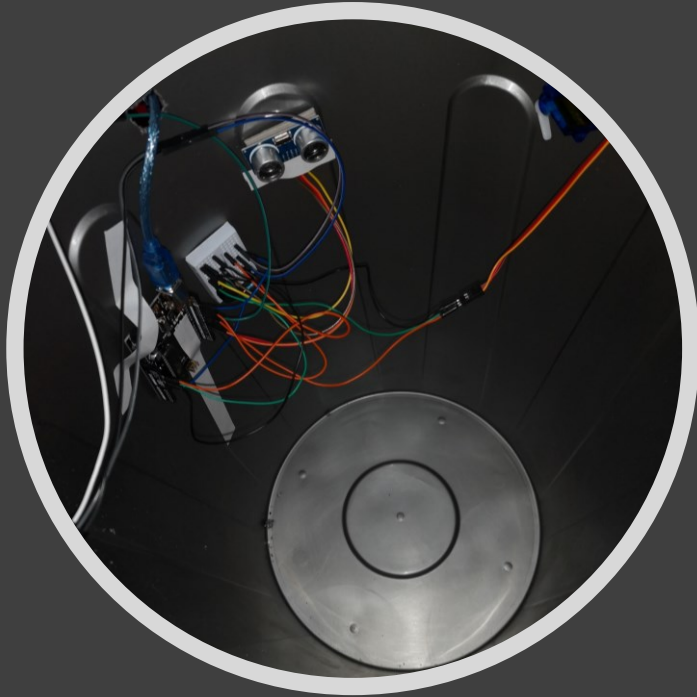Cables

Mini breadboard

Schematic representation

Fritzing model

4

Final product

Arduino Code