HCLTech

AIRBAG CONTROL UNIT

Hanoi Office
Batch 1
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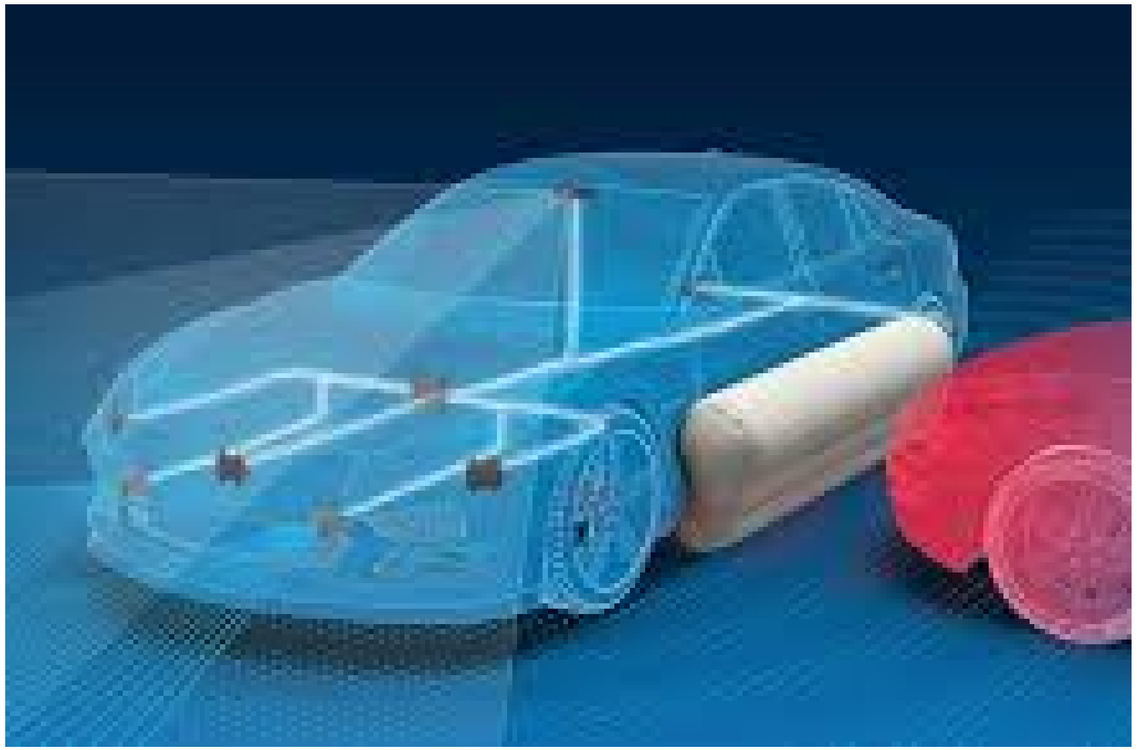
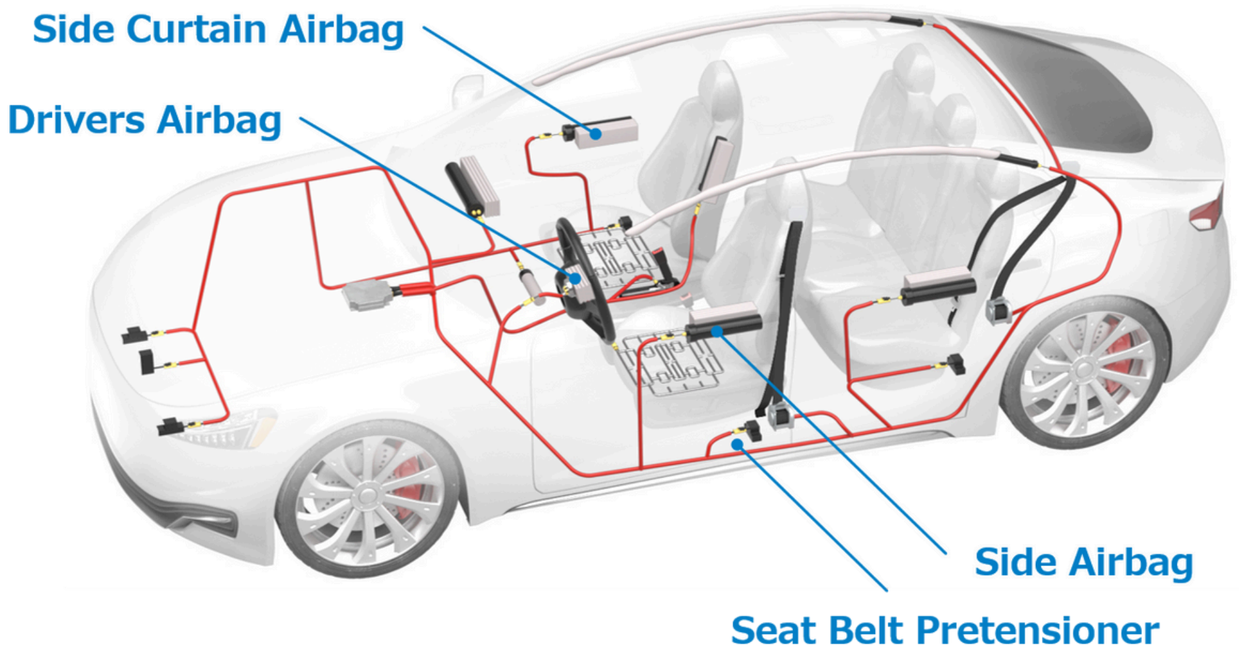


I. Survey results

Car airbag structure

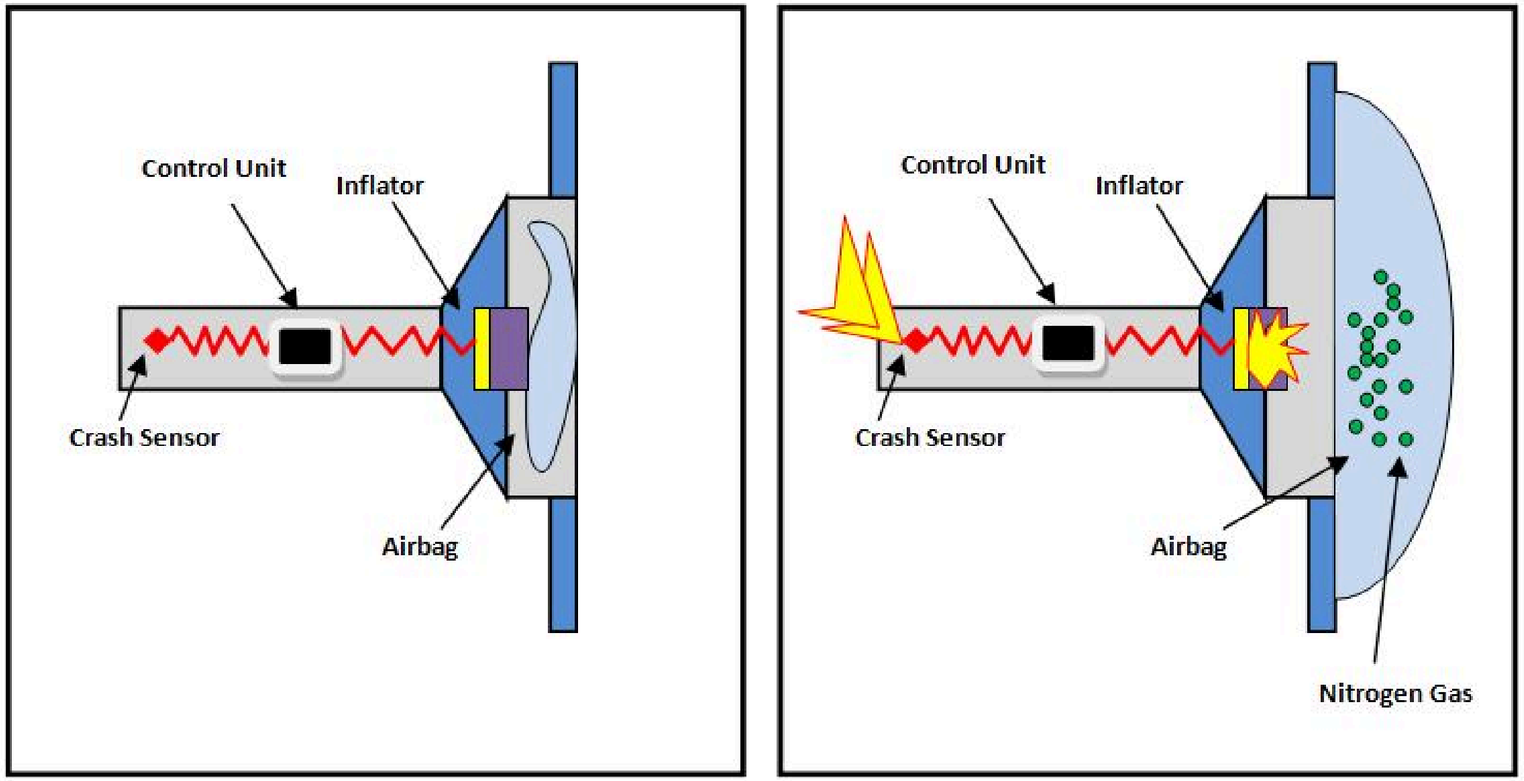
- Sensor system
- The detonator
- The airbag



I. Survey results

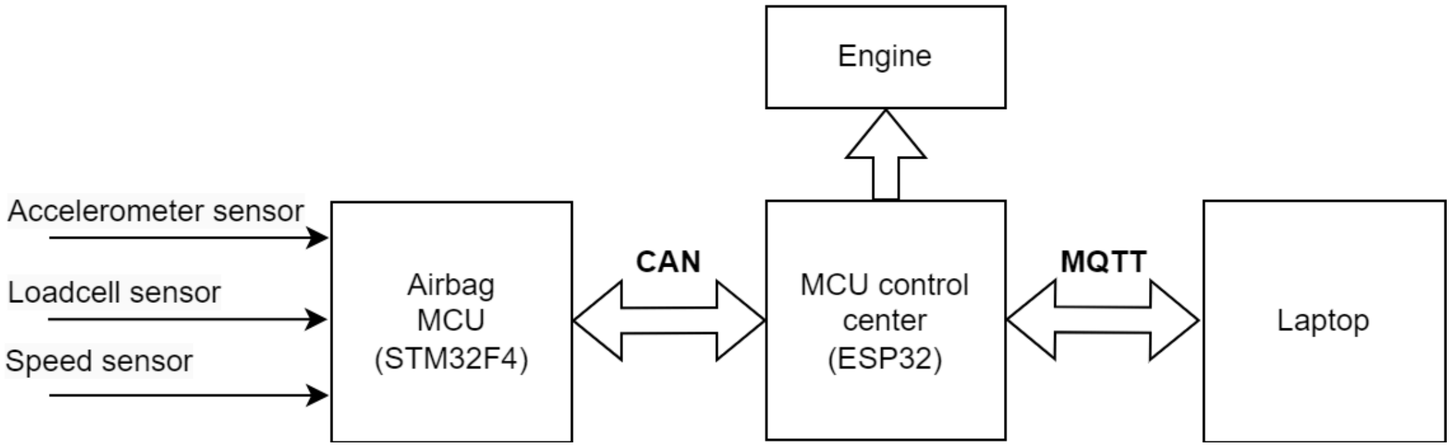
Sensor system

- Acceleration
- Collision
- Pressure



II. Sensor datasheet

Block of system



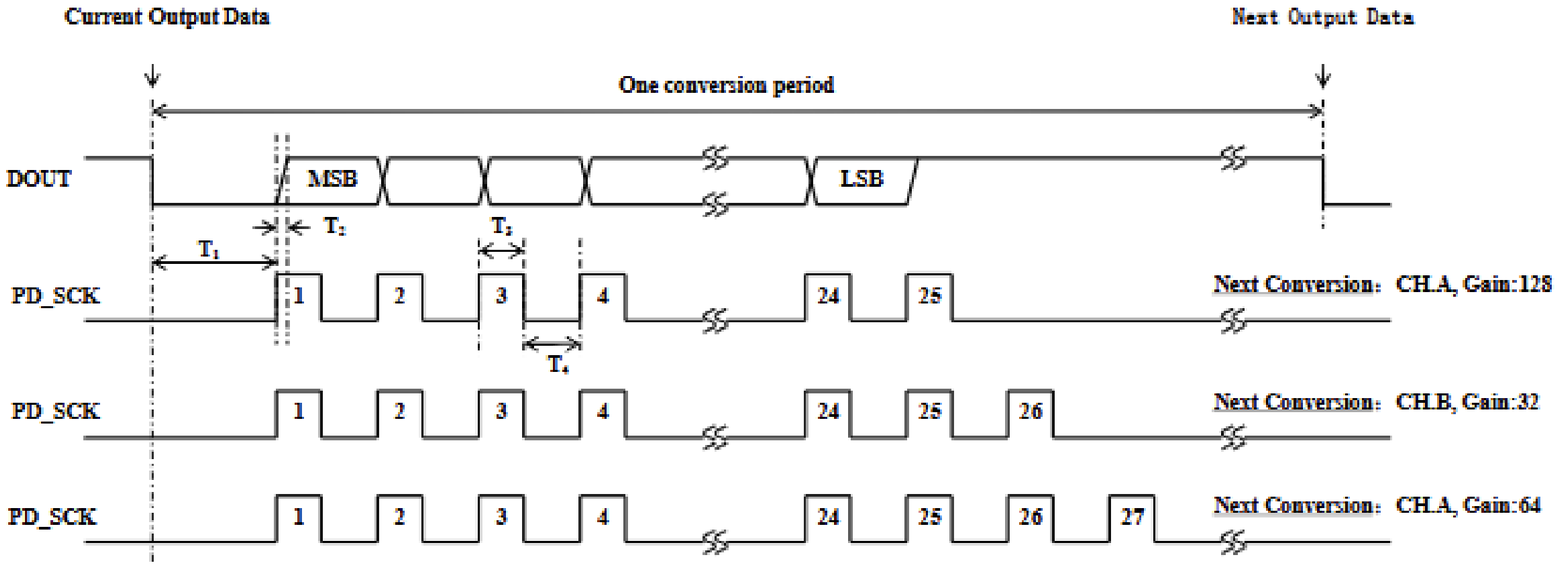
TJA1050

Operation supply voltage : 5.5 V
Baudrate : 1 Mbs
Maximum of data transmitted : 8 Byte

II. Sensor datasheet

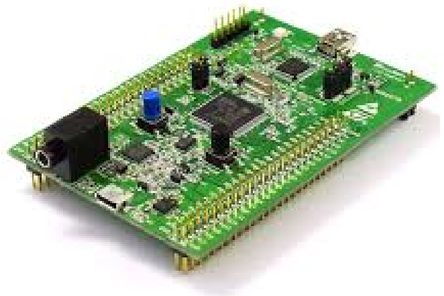
HX711

Operation supply voltage : 2.6 ~ 5.5 V
Output data : 24 Bits

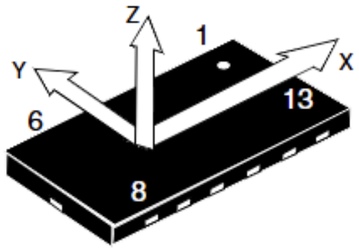


PD_SCK Pulses	Input channel	Gain
25	A	128
26	B	32
27	A	64

II. Sensor datasheet



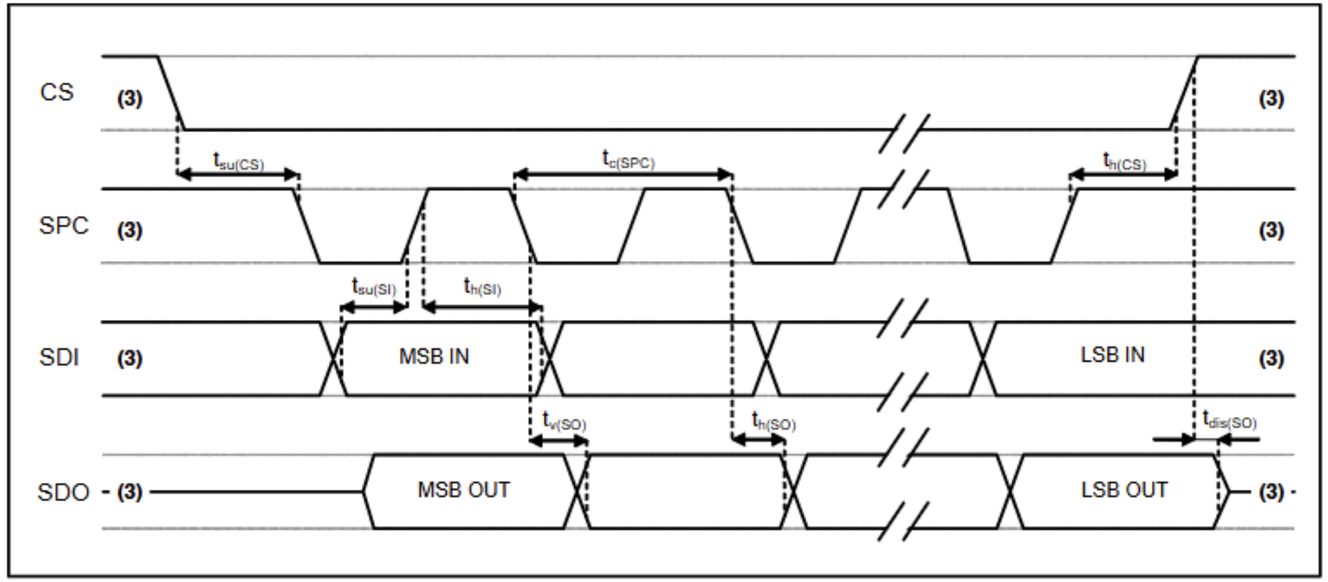
STM32F407



LIS302DL

Operation supply voltage : 2.16 ~ 3.6 V
Protocol interface : I2C/SPI
Scale : ±2g/±8g (1g ≈ 9.81m/s2)
Output Data : 8 bits

Figure 3. SPI slave timing diagram (2)



CTRL_REG1 (20h)

Table 18. Register

DR	PD	FS	STP	STM	Zen	Yen	Xen

Using scale : ±8g

III. Methodology

Step 1

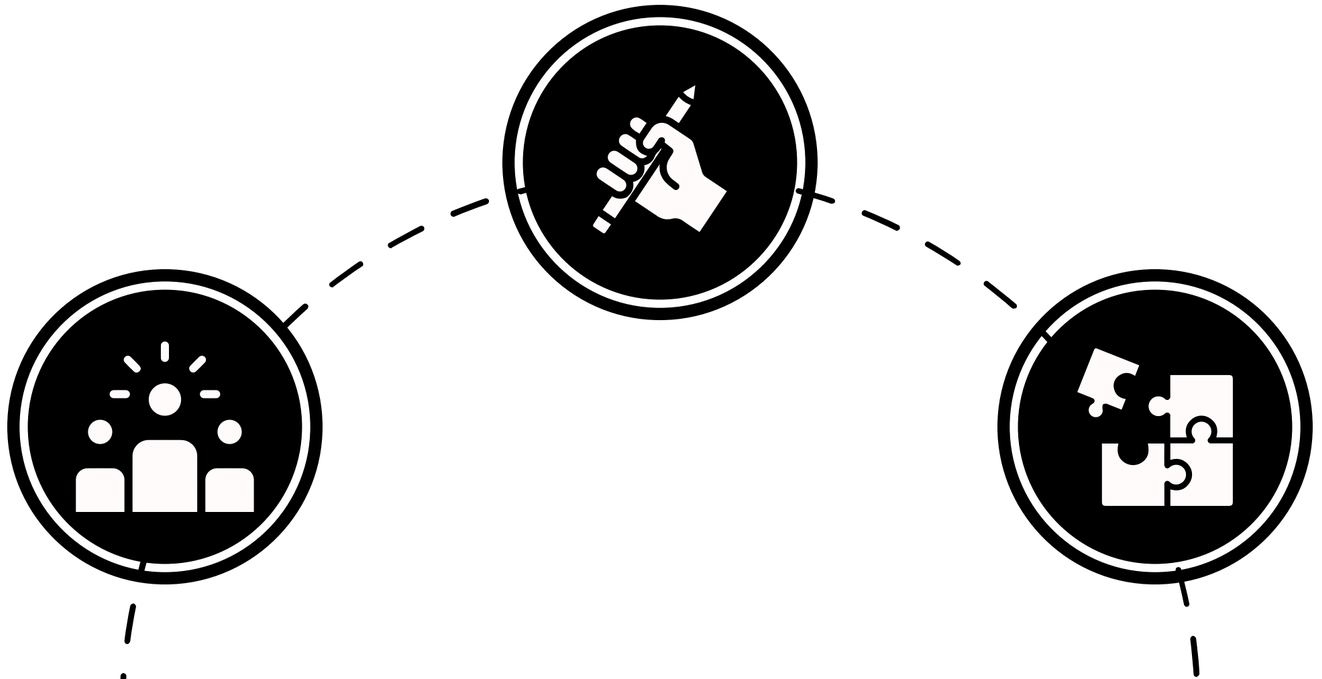
Desgin and coding

Step 2

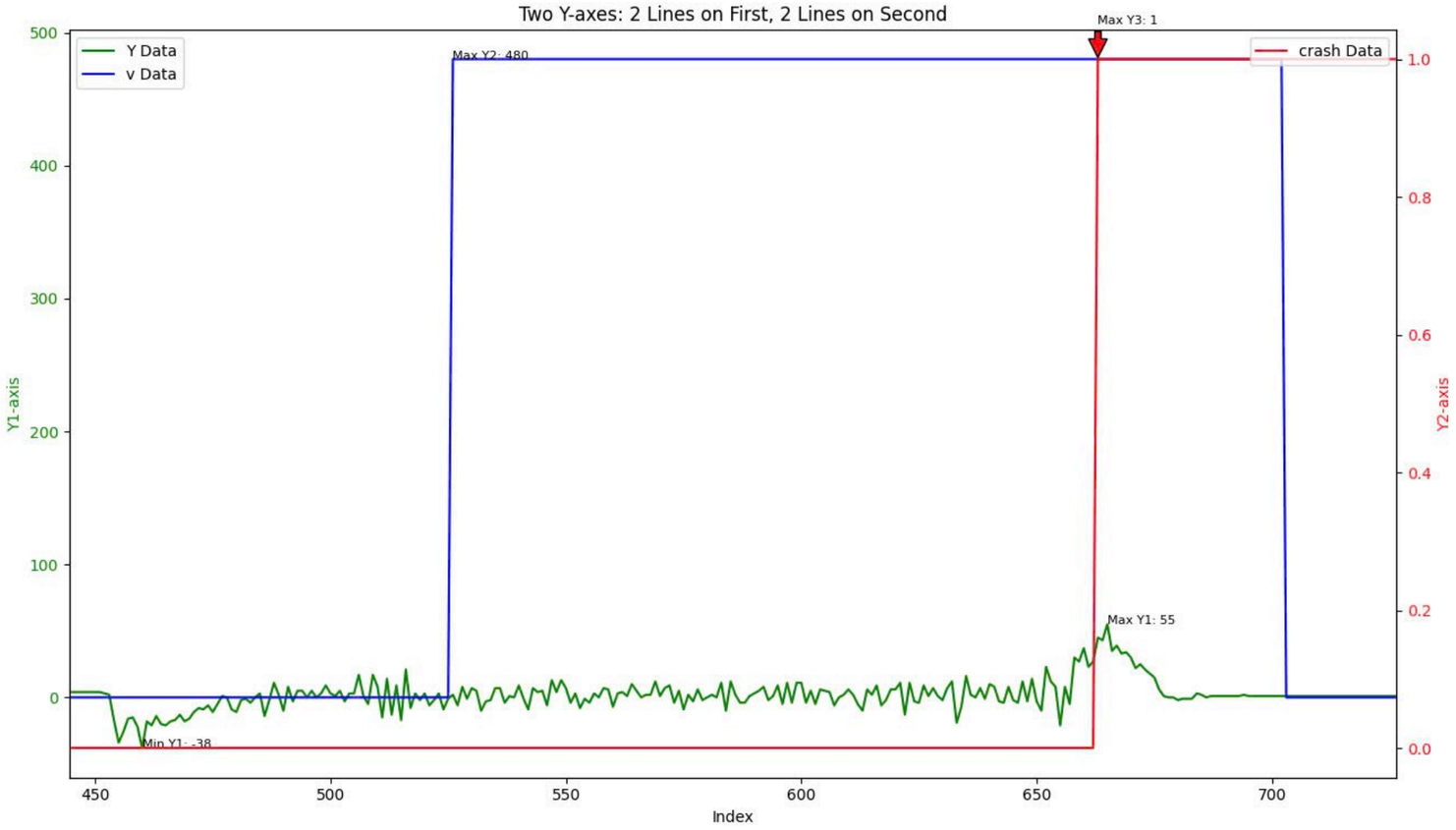
Unit Testing

Step 3

Result of the project



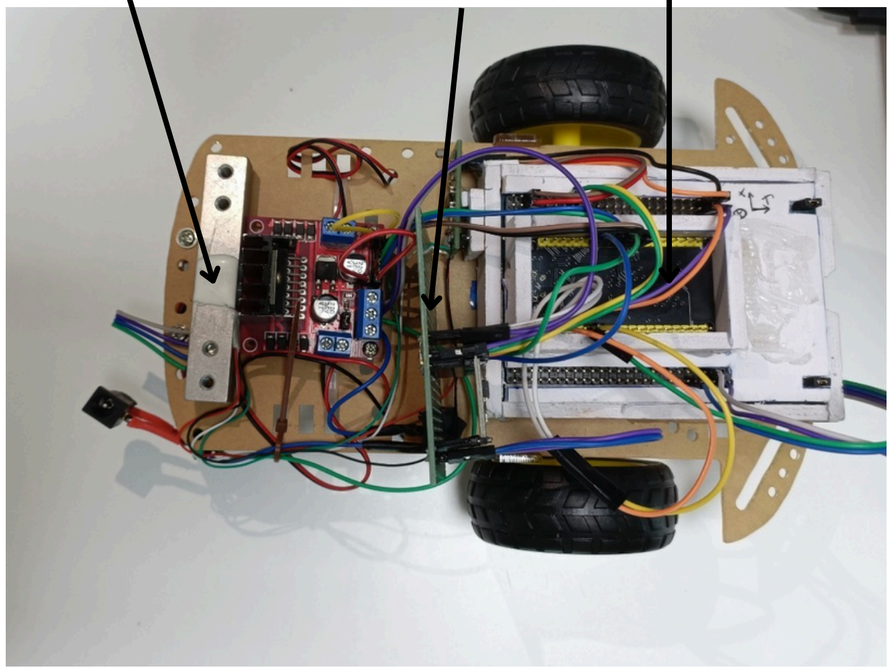
Result of the project

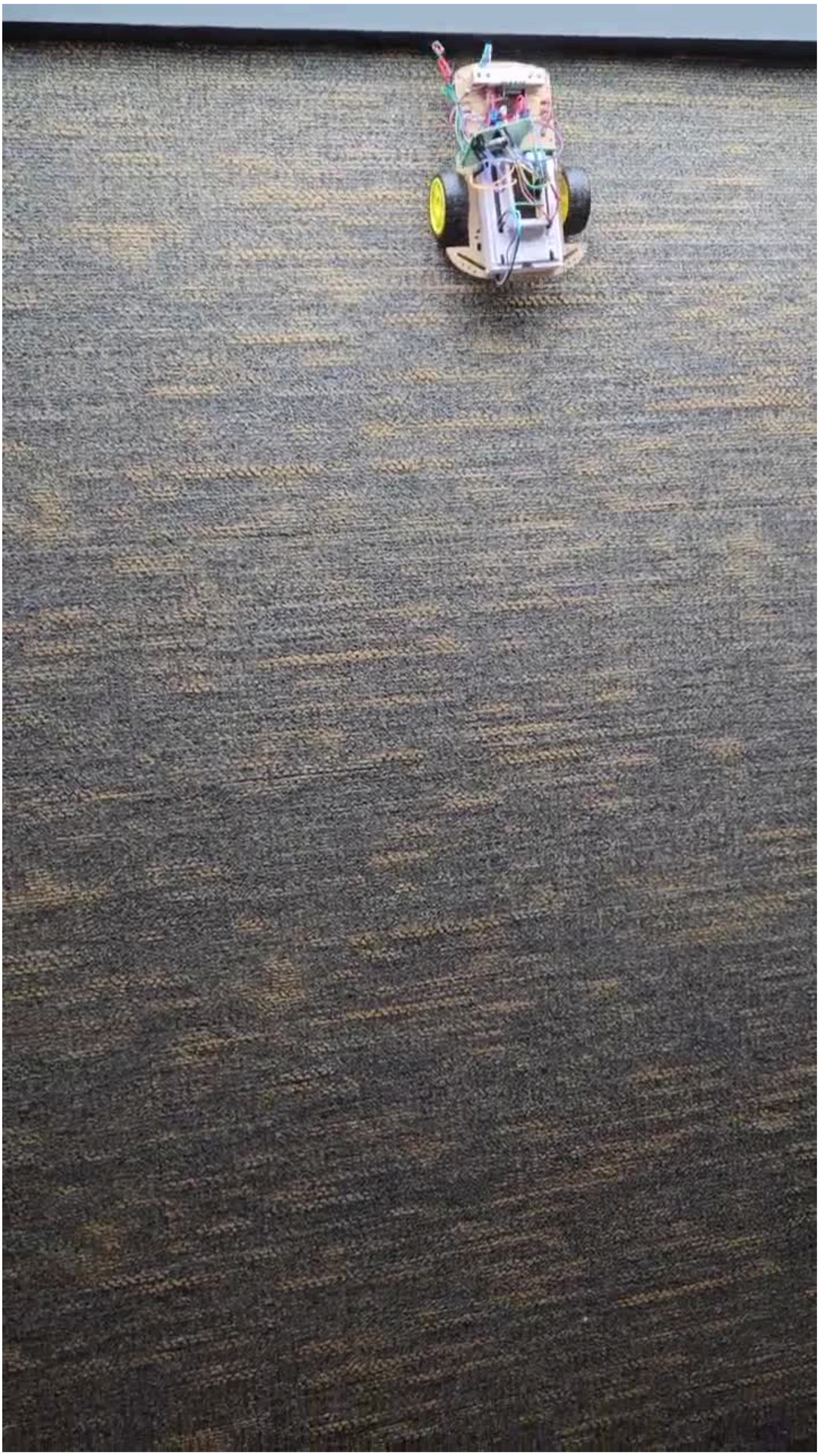


Weight sensor

Stm32 and esp32

Can module





THANK'S FOR WATCHING