

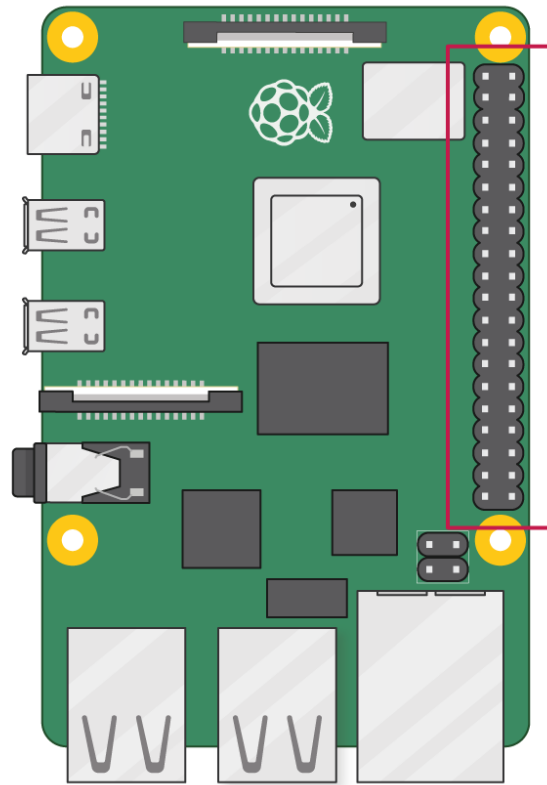


RODENT MONITORING DEVICE

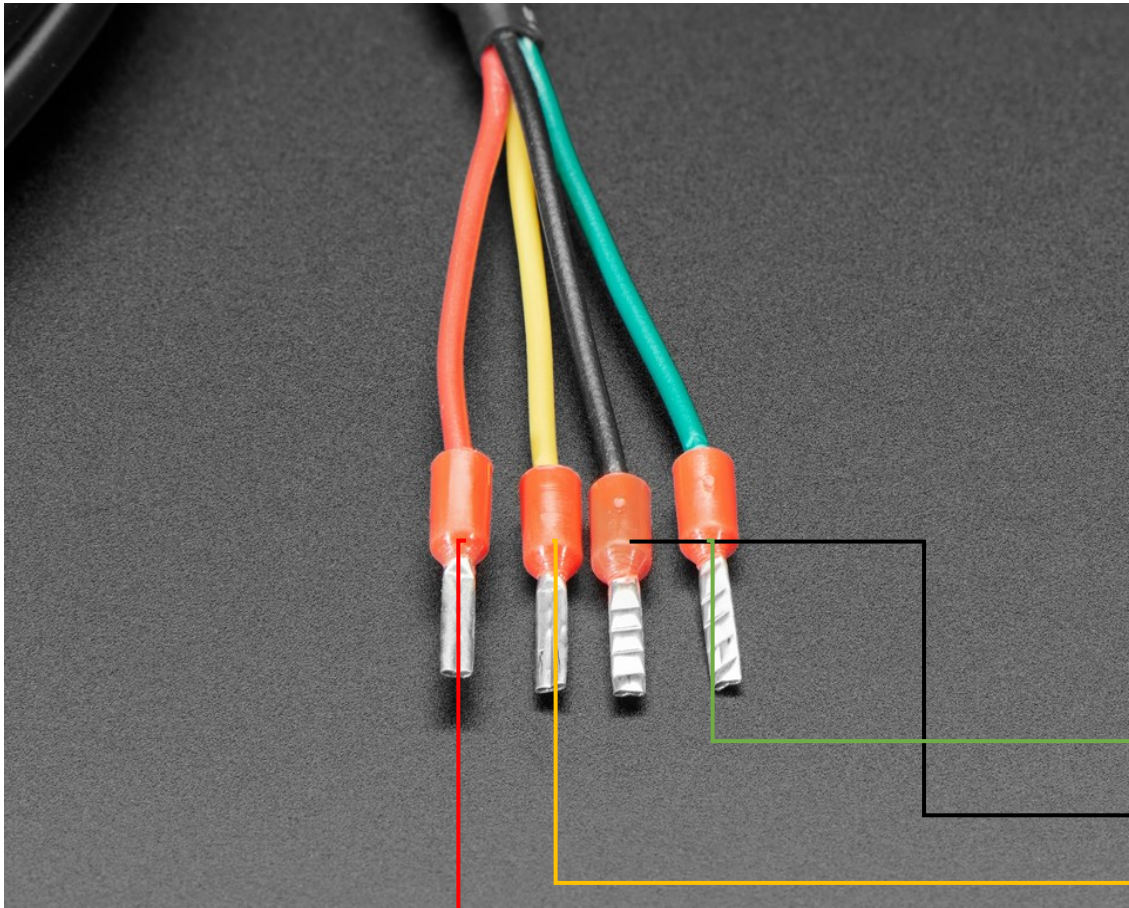


CIRCUIT CONNECTION DETAIL

Raspberry Pi Pin detail



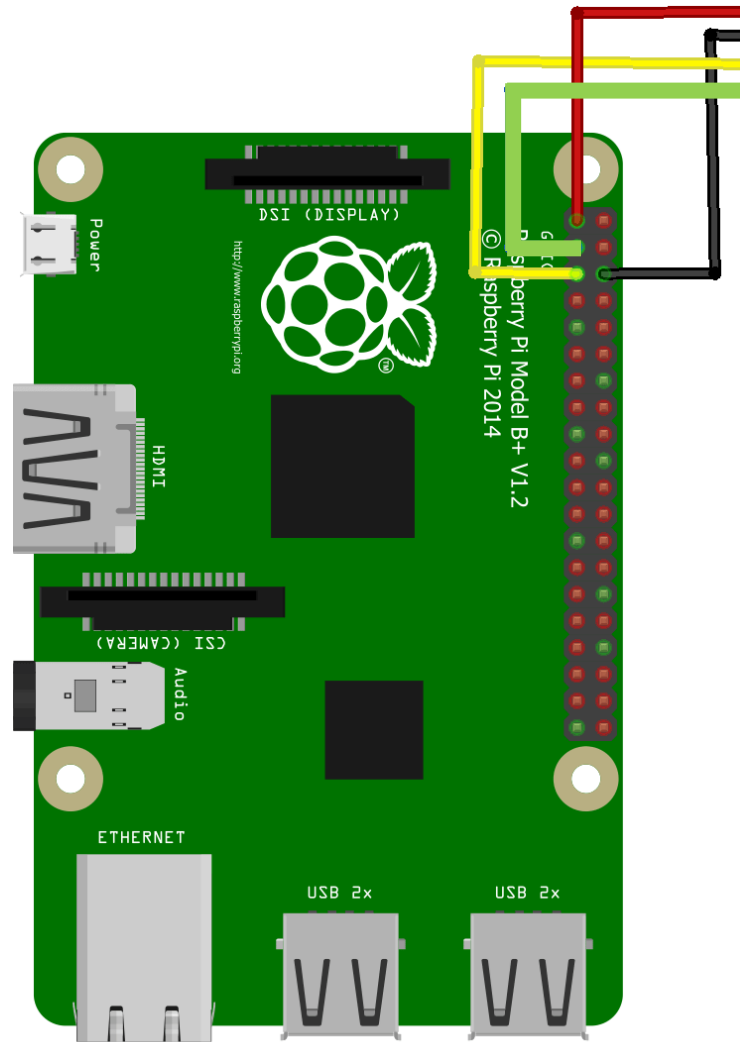
3V3 power	1	2	5V power
GPIO 2 (SDA)	3	4	5V power
GPIO 3 (SCL)	5	6	Ground
GPIO 4 (GPCLK0)	7	8	GPIO 14 (TXD)
Ground	9	10	GPIO 15 (RXD)
GPIO 17	11	12	GPIO 18 (PCM_CLK)
GPIO 27	13	14	Ground
GPIO 22	15	16	GPIO 23
3V3 power	17	18	GPIO 24
GPIO 10 (MOSI)	19	20	Ground
GPIO 9 (MISO)	21	22	GPIO 25
GPIO 11 (SCLK)	23	24	GPIO 8 (CE0)
Ground	25	26	GPIO 7 (CE1)
GPIO 0 (ID_SD)	27	28	GPIO 1 (ID_SC)
GPIO 5	29	30	Ground
GPIO 6	31	32	GPIO 12 (PWM0)
GPIO 13 (PWM1)	33	34	Ground
GPIO 19 (PCM_FS)	35	36	GPIO 16
GPIO 26	37	38	GPIO 20 (PCM_DIN)
Ground	39	40	GPIO 21 (PCM_DOUT)

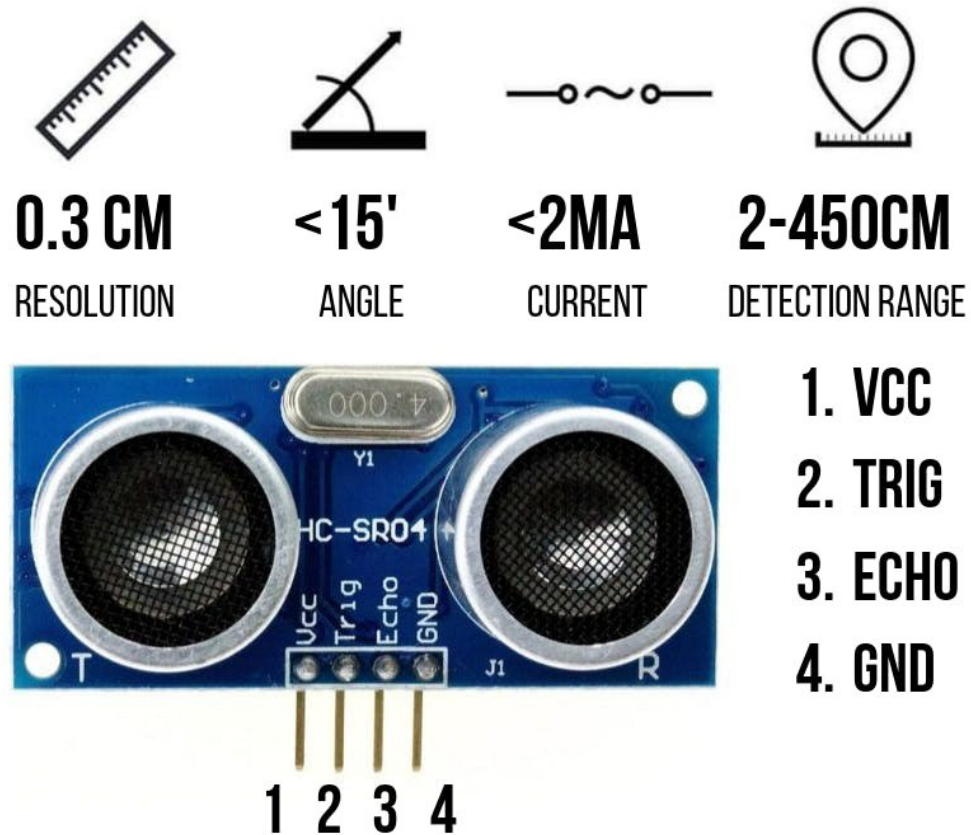


WIRE	FUNCTION	RP-Pi PIN NUMBER
Green	Data	3
Black	Ground	6/39/25/34
Yellow	Clock	5
Red	VCC (3-5VDC)	1

Humidity and Temperature sensor

H/T Sensor connection



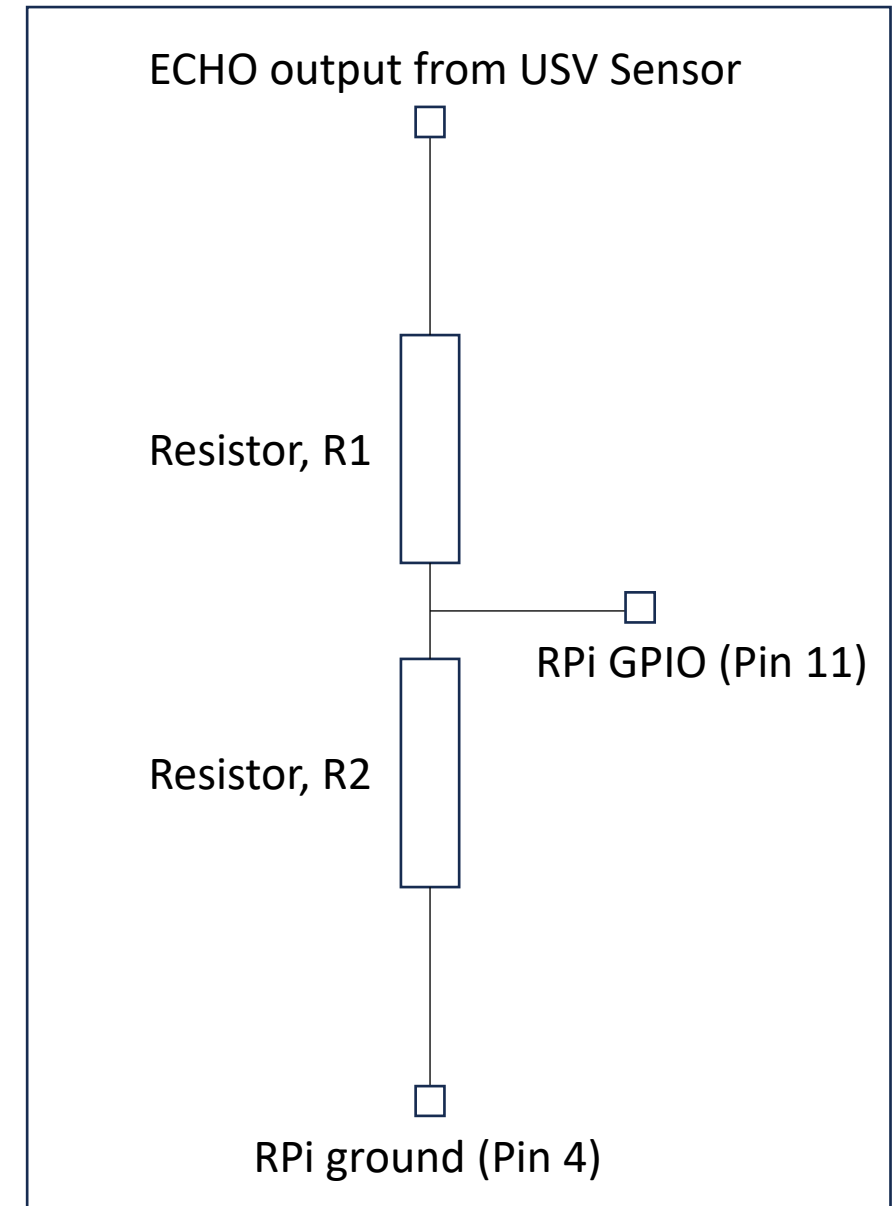
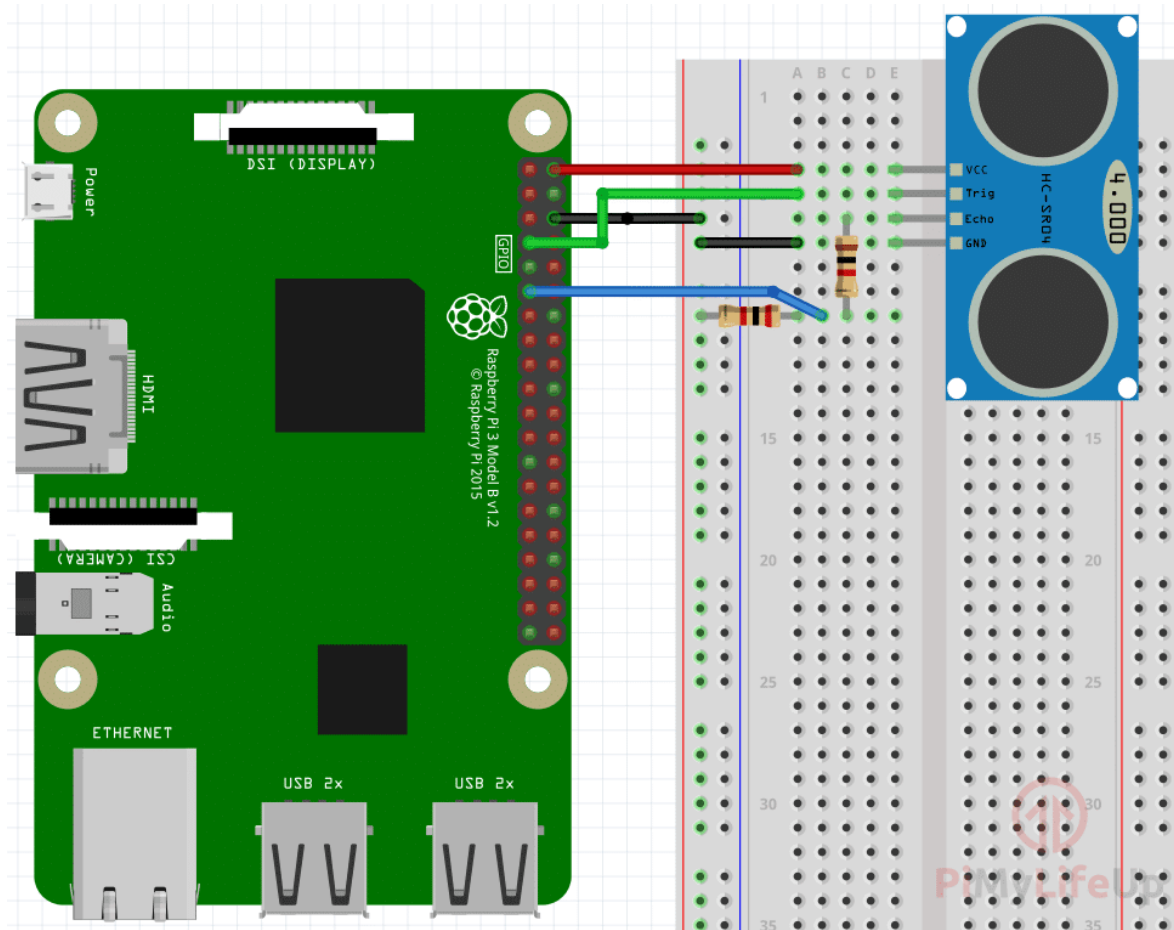


PIN	FUNCTION	RP-Pi PIN NUMBER
1	VCC	2
2	TRIG	7
3	ECHO	11*
4	GND	6

*Do not connect ECHO to pin11 directly. The ECHO output is 5 volts we need reduce it to 3v using a voltage divider circuit.

HC-SR04 Ultrasonic Range sensor

USV Sensor connection



VOLTAGE DIVIDER CIRCUIT

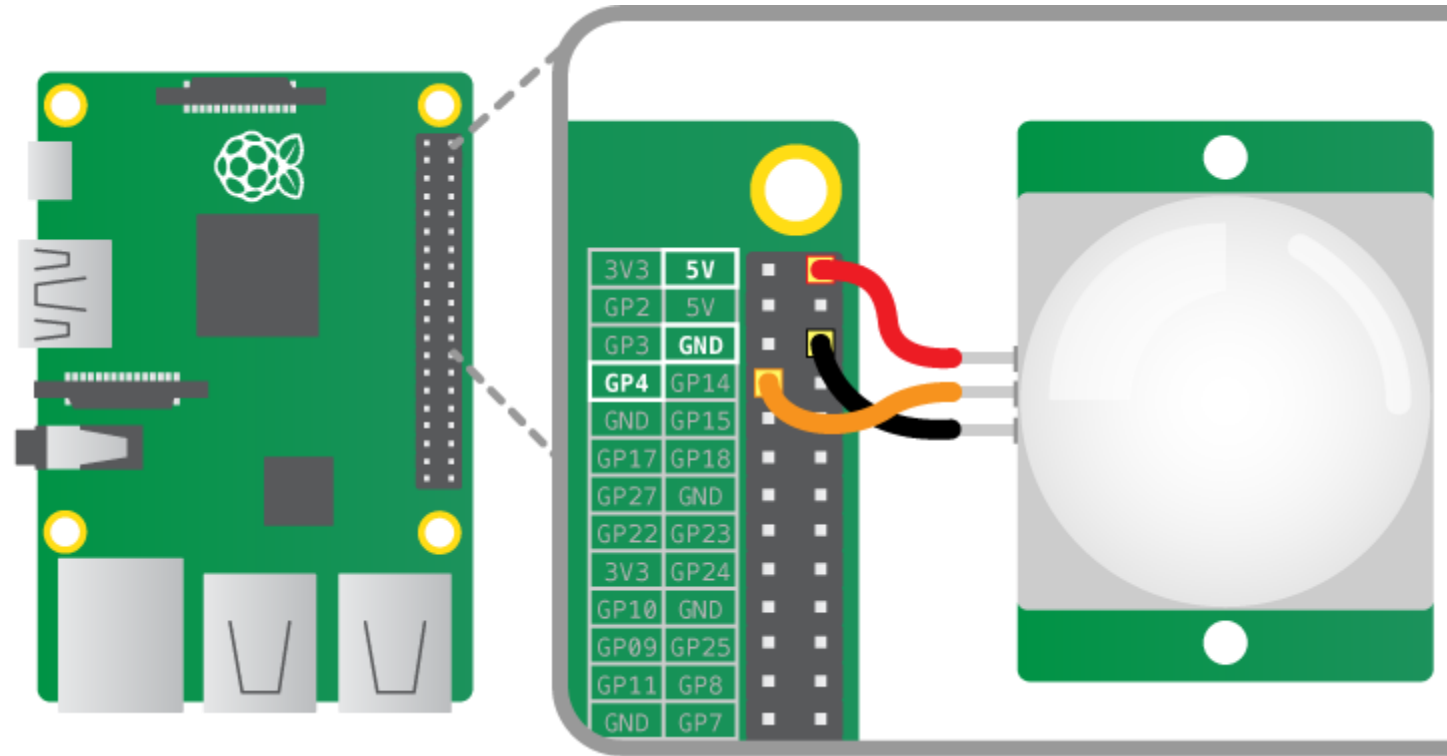
Note: The values of resistors R1 and R2 should be chosen such that $R1/R2 = 0.5$.
Recommended resistor values: R1 = 1K ohm R2 = 2K ohm



PIN	FUNCTION	RP-Pi PIN NUMBER
1	VCC	2
2	Out	7
3	GND	6

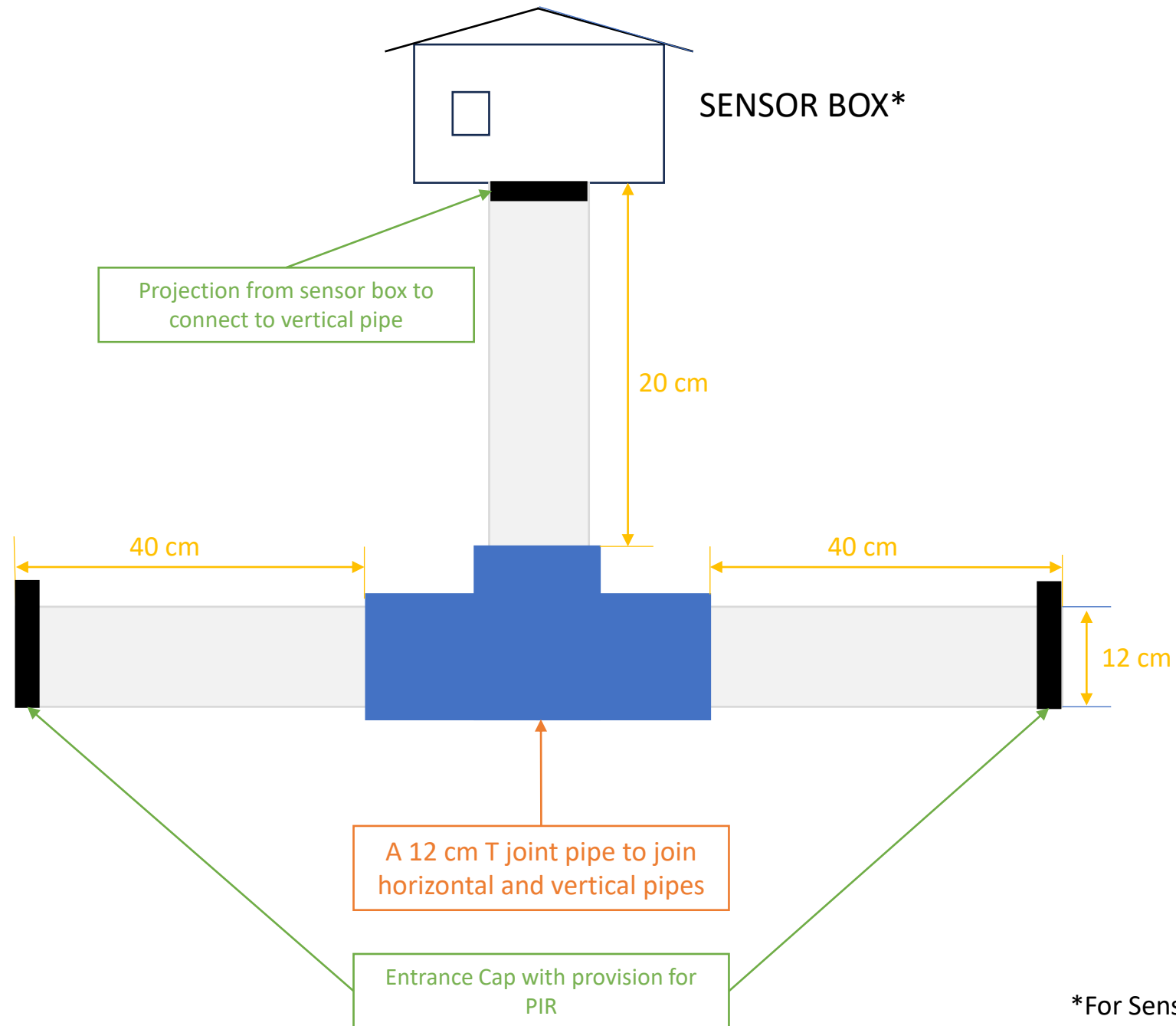
Passive Infrared (PIR) sensor

PIR Sensor connection



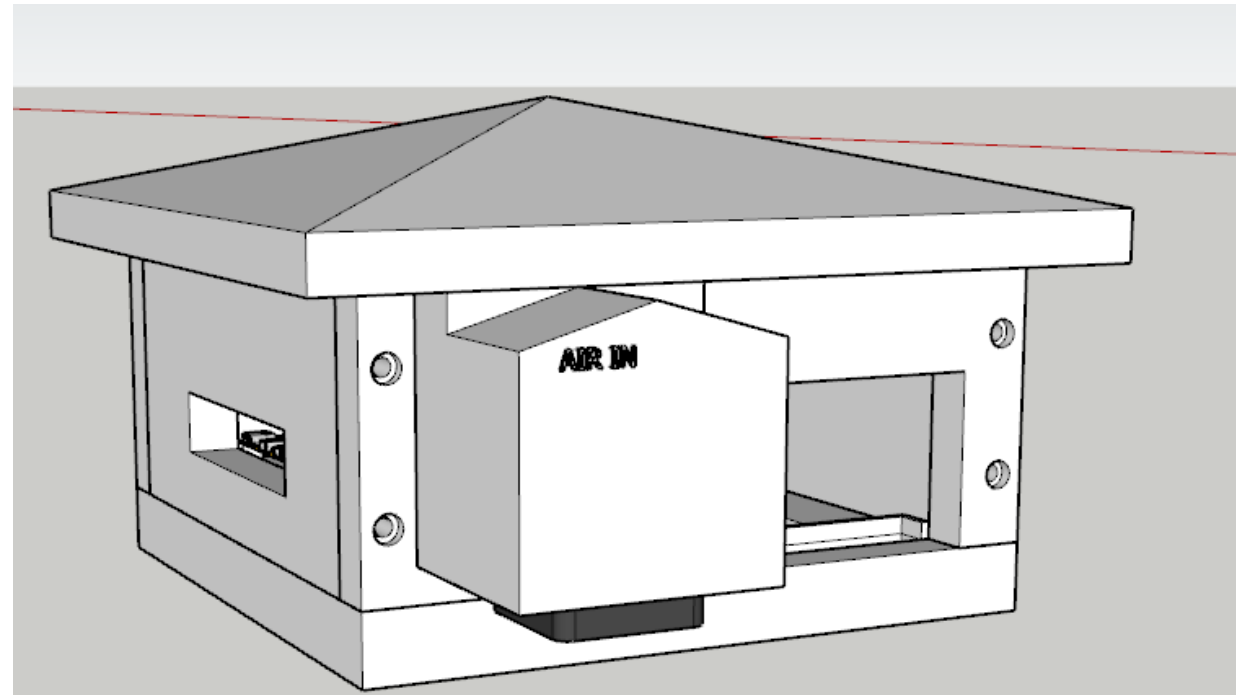
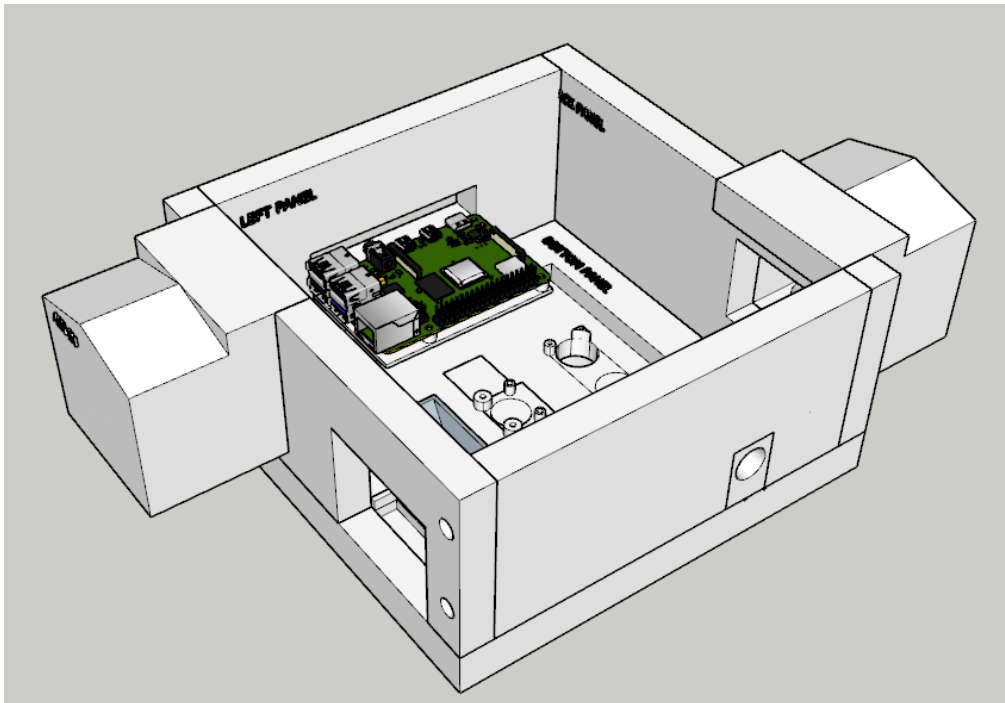
HARDWARE DETAIL

RMD

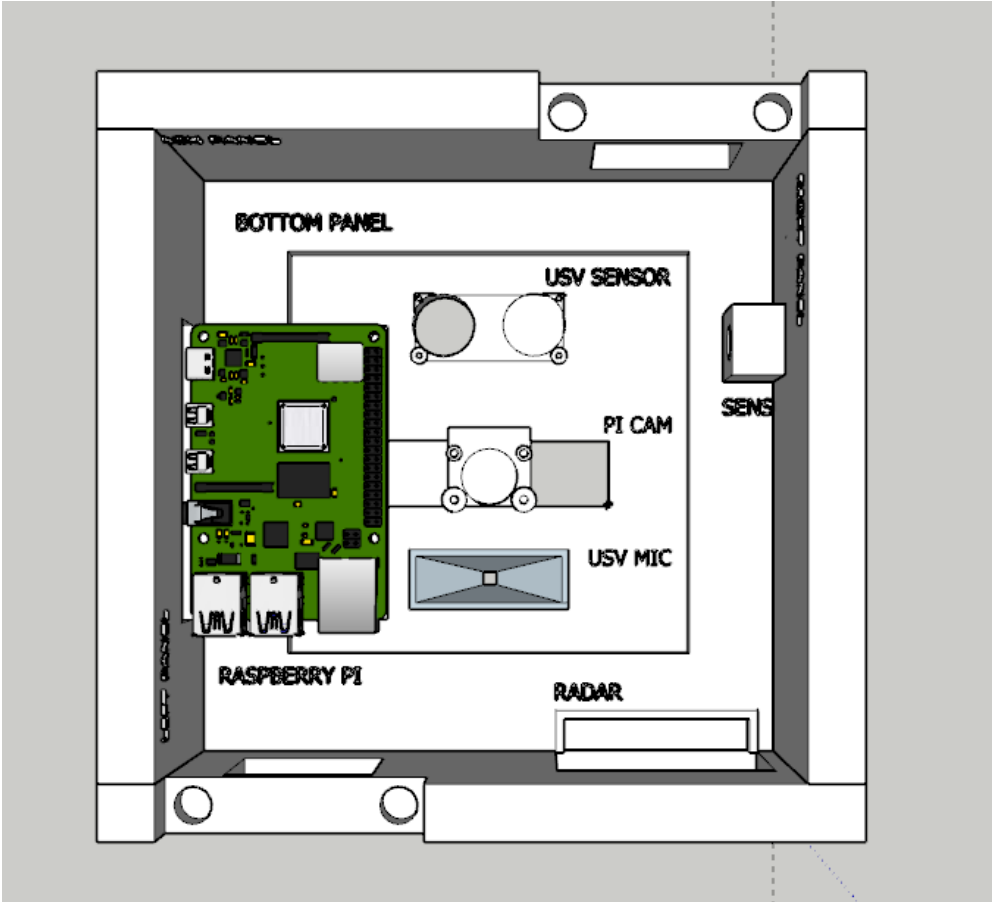


*For Sensor box detail refer 3D model

Sensor Box

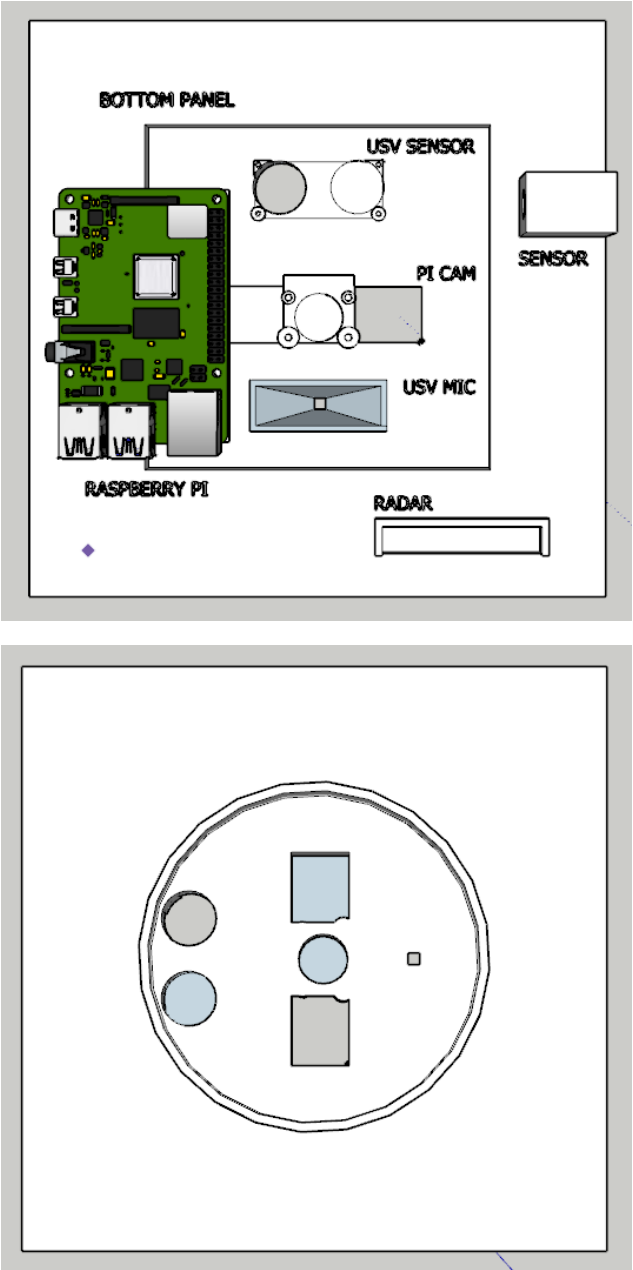


Sensor Box

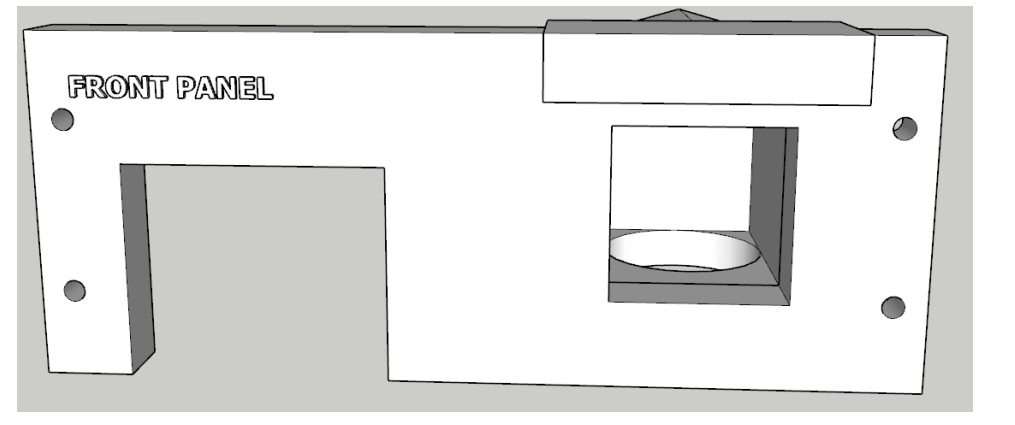
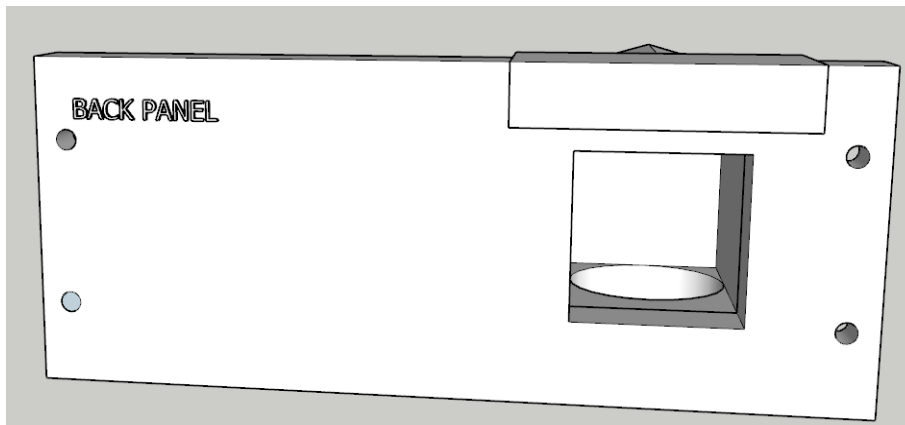
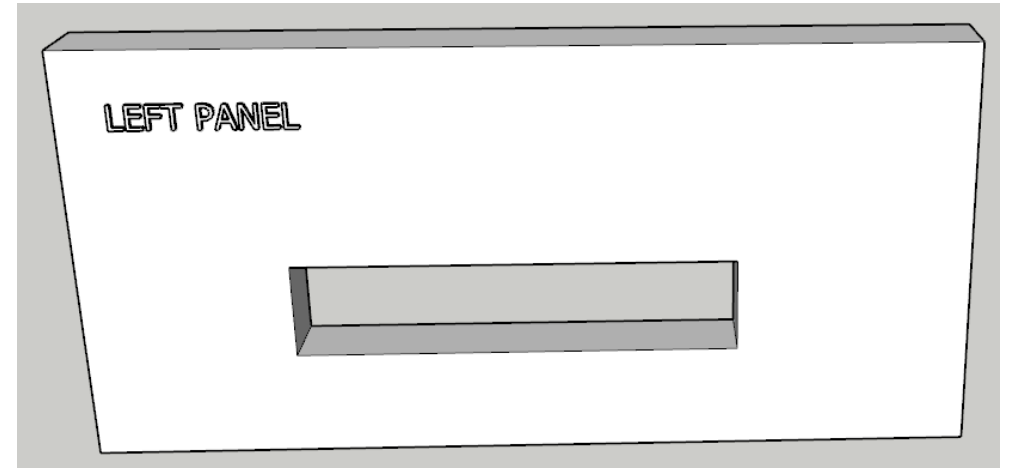
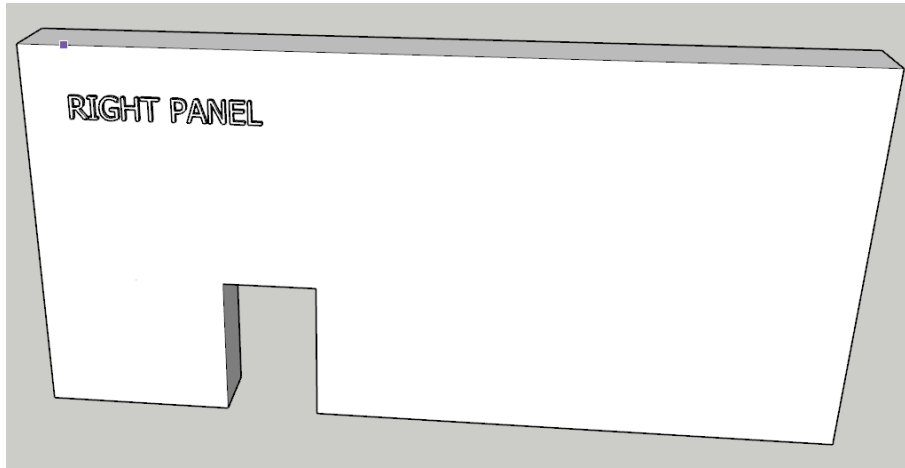


TOP View

Bottom Panel

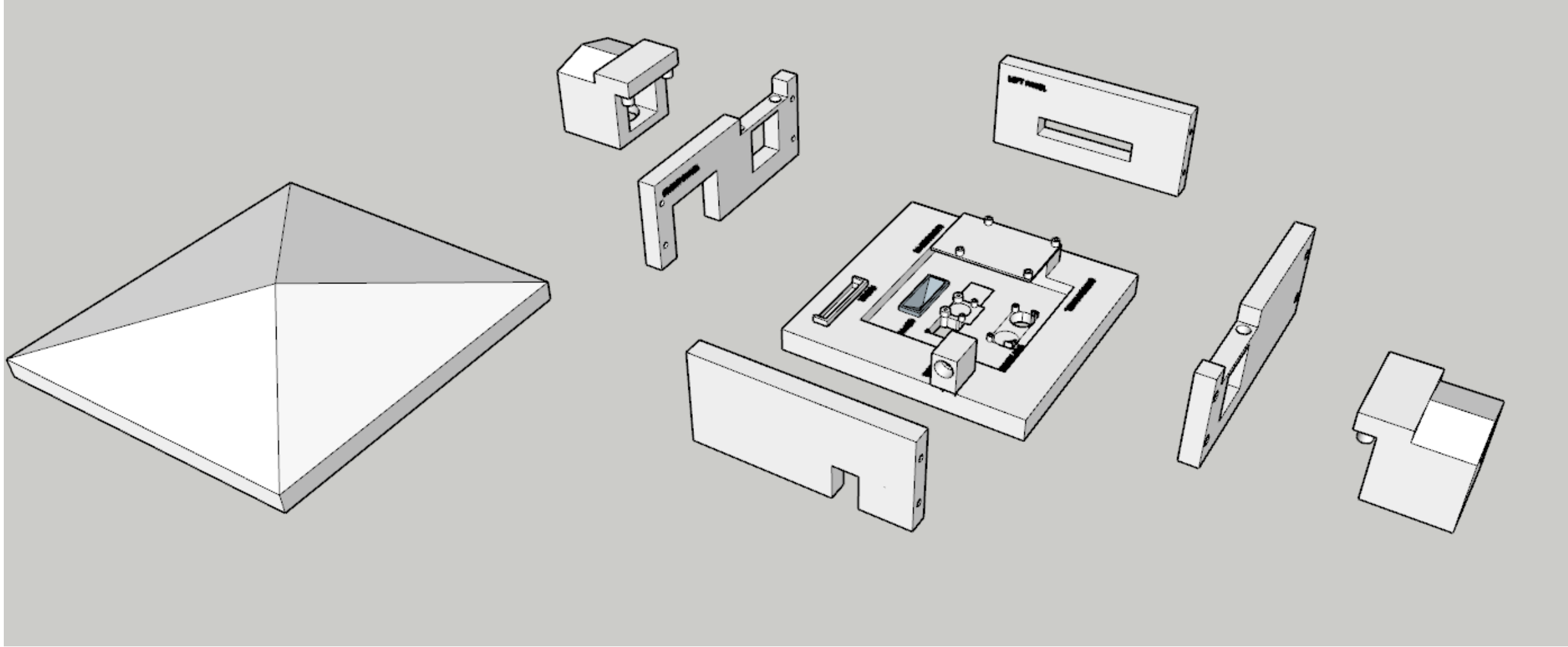


Sensor Box



SIDE PANELS

Sensor Box



The Sensor box is divided into multiple components. This MAY help the partner to print on 3D printer