

Ultrasonic_Module

Module Responsibility

Module Responsibility :

- Generate a trigger pulse on the **TRIG** pin.
- Configure the ECHO pin as an **interrupt source**.
- Detect **rising and falling edges** of the ECHO signal using GPIO interrupts
- Measure the echo pulse duration.
- Convert the measured time into a distance value (in **cm** or **m**).

Output :

- Provide the distance to the App
- Distance Range:
 - Minimum: 2 cm
 - Maximum: 400 cm

Module Design

<<block>>
Ultrasonic_Sensor

<<Parameters>>

- typedef struct
{
 gpio_num_t trig_pin
 gpio_num_t echo_pin
} Ultrasonic_Config_t

<<Function>>

~Ultrasonic_Init (Ultrasonic_Config_t* cofing) : void
~out:Ultrasonic_Main (float * Distance) : void

Module Flowchart

