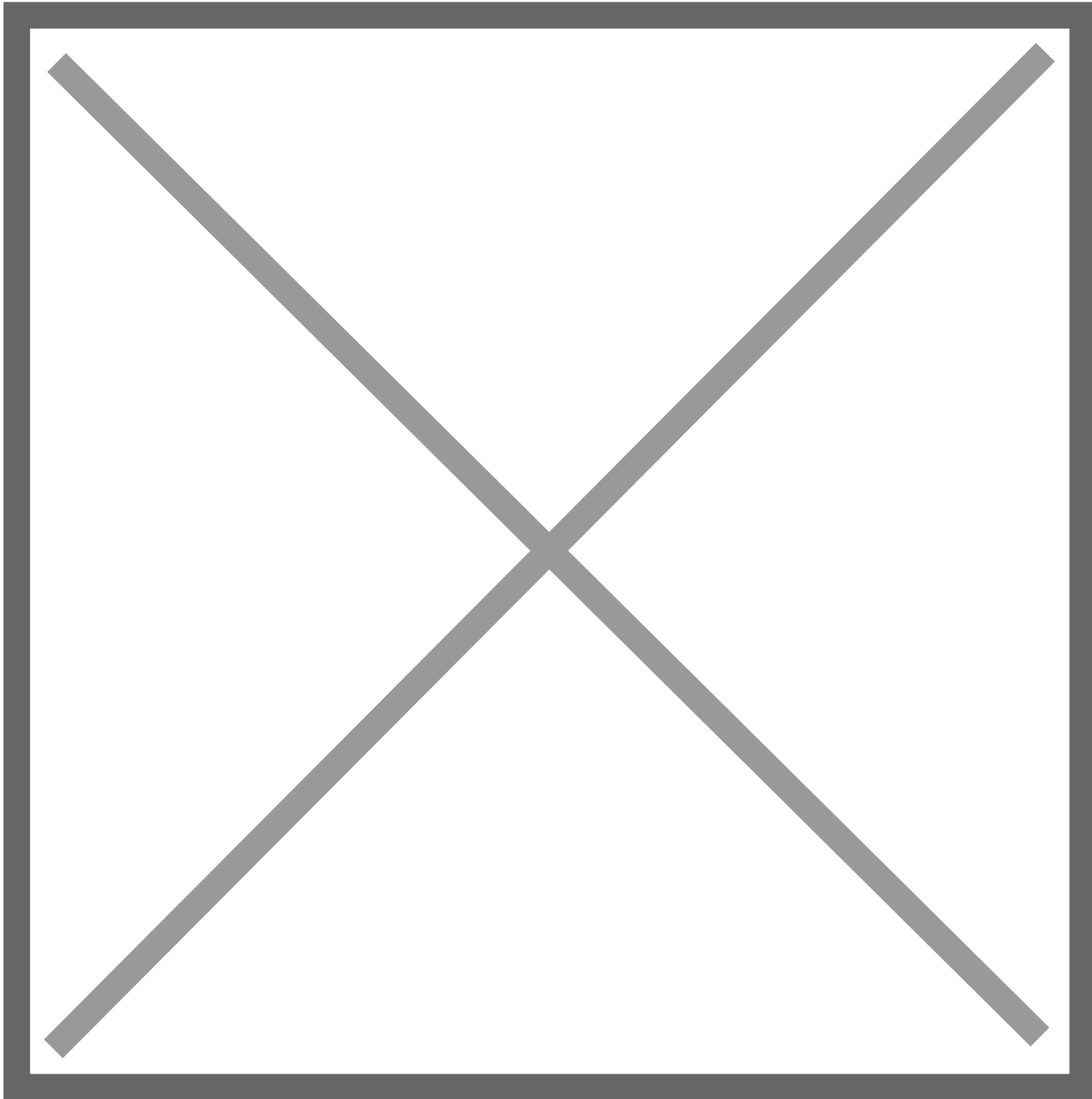


Understanding the Project and the Blocks Used

This project uses the following main blocks, as shown in the image:

- **HC_SR04:** A block that manages the HC-SR04 ultrasonic sensor, controlling the Trigger pulse and measuring the Echo response time. It directly provides the distance value.
- **inverterC:** Ensures that a new pulse is sent only after the previous measurement is completed. It acts as a control for the Trigger signal before UART transmission.
- **uart_tx_16_bit_dec_trigger:** Transmits the distance value via UART, sending decimal data in 16-bit format. The transmission is triggered by the "inTrigger" signal.
- **Constant (1):** Used as a separator in UART transmission.
- **Input and Output Pins:**
 - clk: System clock input.
 - IO68: Input for the Echo signal from the sensor.
 - IO69: Output to activate the Trigger pin of the sensor.
 - uartTx: UART data output.
 - led0: LED indicating when a UART transmission is complete.



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