Project Explanation

When a button is pressed, the Ultrasonic Sensor will send a signal and start a timer. The signal will reflect in an obstacle and return to the ultrasonic sensor. Once it receives the returned signal, the timer stops and then the FPGA does some calculations to calculate the time it took and, with that, discover the travelled distance. This distance will then be printed in the hexadecimal display.

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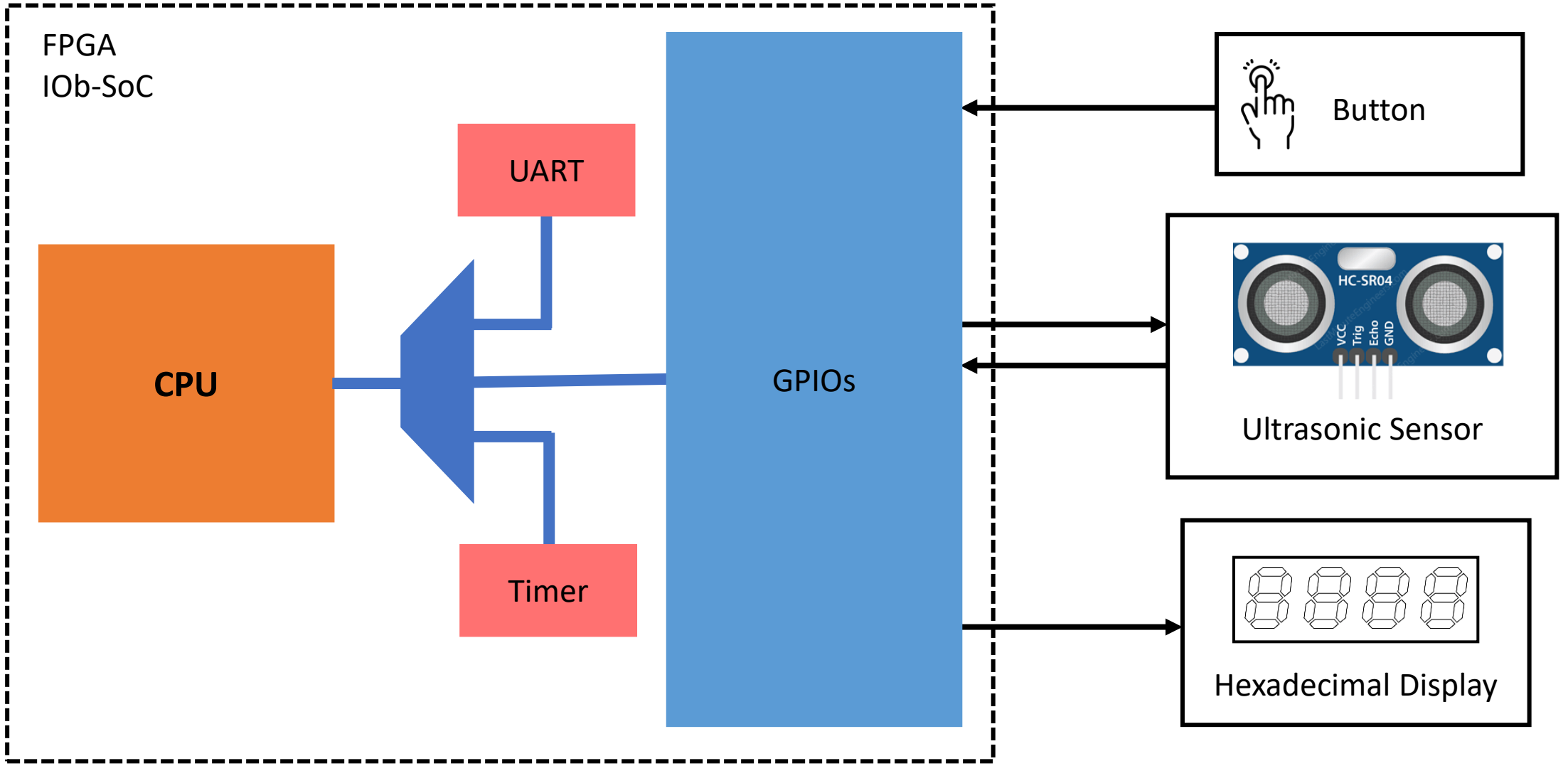
Block Diagram



Expected Results

This project aims to develop a system capable of measuring distances using an Ultrasonic Sensor controlled by a BASYS3 board.

This project will only use the GPIO Peripherals, which have already been tested using the CPU frequency of 100MHz.