

Project Brochure

Wireless sensor station via radio link using auto baud rate detection

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Ritu Bajpai, ritu_ece@gwu.edu

This project establishes a communication between two Z8 microcontroller boards. One board transmits data and the other board receives the data. An auto baud rate detection algorithm has been implemented on the Z8 board which acts as a receiver. This means that the rate at which the transmitter transmits data can be different than the rate at which the receiver is set up to receive data but the receiver will automatically adjust its receive data rate according to the transmit data rate of the transmitter. Figure 1 below shows a picture of the project in which an analog temperature sensor is connected to Z8 board 1 (on the left). The temperature is read from the sensor and displayed on the LED array. The temperature data is communicated to the Z8 board 2 (on the right). The received data is then processed by the microcontroller to give the value of the temperature. The temperature reading is displayed on the LED array similar to Z8 1.

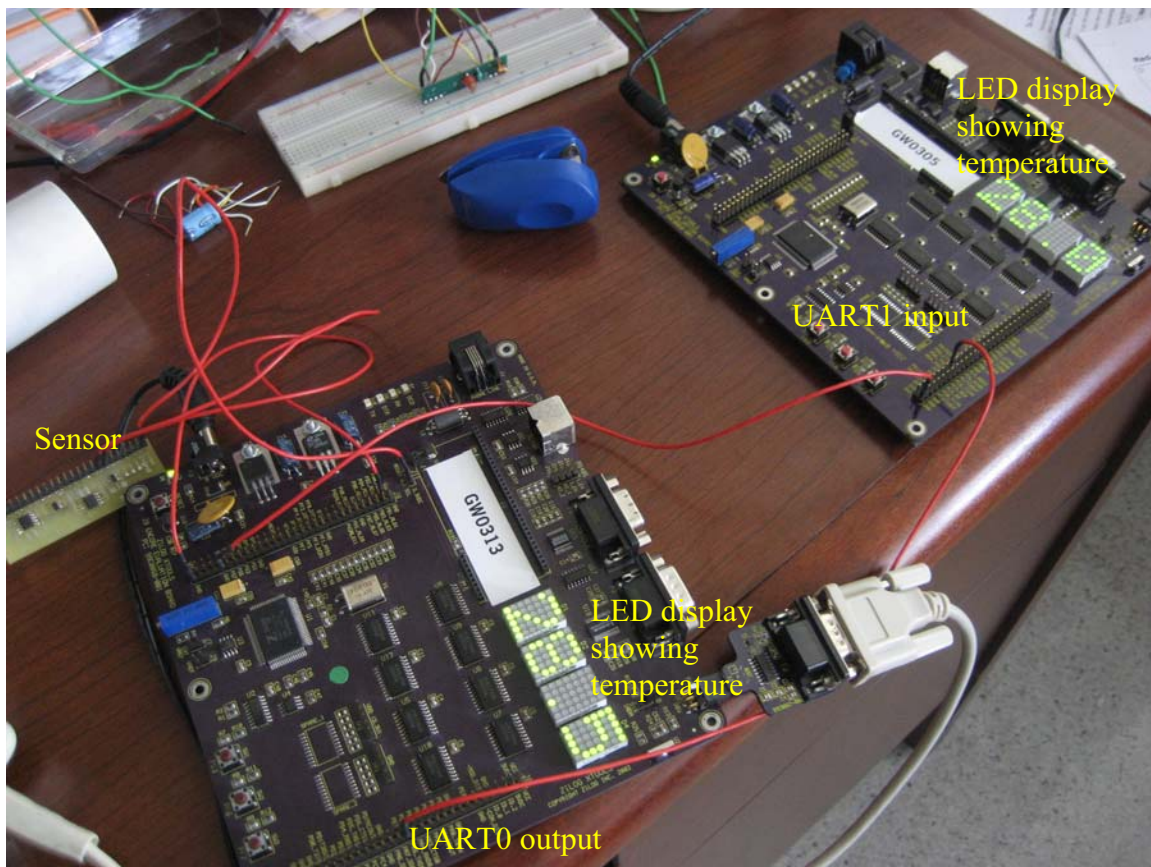


Figure 1: Picture of the project showing communication between the two Z8 boards.

Project Status Report

Temperature change in the surroundings causes the signal from the sensor to change. This change is reflected in the temperature reading shown on the led array of both the Z8 boards.

This device could be used for monitoring the temperature of one room from the other room. Also since the receiver is auto baud rate detection enabled it could work with different transmitters which can transmit at different baud rates. A better version of this device would be if wireless link could be established between the two devices. Then instead of putting the display in two rooms a person could actually carry the receiver with him within the range of wireless communication and monitor the temperature of a particular room.

Figure 2 shows the hardware block diagram of the project, if a radio link was to be established between the two Z8 microcontroller boards.

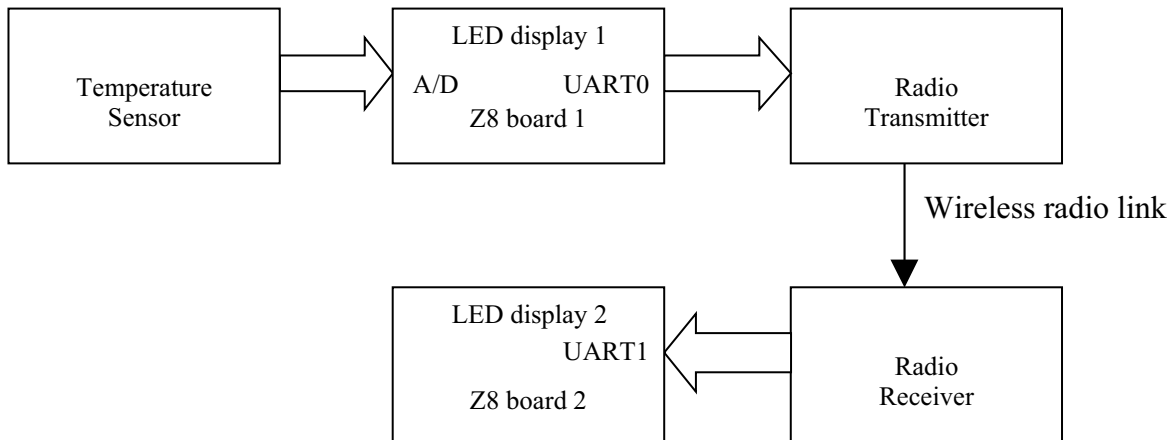


Figure 2: Hardware block diagram for the project