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                                btAndSerialMaster0_1b.nxc
// FILE: btAndSerialMaster0_1b.nxc - Works!
// DATE: 04/01/20 09:35
// AUTH: P.0h
// DESC: Master receives serial message from PC. Master creates Bluetooth
//       version of message and transmits to Slave
// VERS: 0_1a: prototyping
//       0_1b: Display string more nicely
// REFS: Works with btSlave0_2a.nxc. btMaster0_2a.nxc and nxtReadFromPC1_0b.nxc

#include "protocol0_2a.h"

task main() {

    // Serial port related variables
    byte readBuffer[];           // array to store bytes received from PC
    string charsRead;           // string of ASCII characters read from PC

    // Bluetooth related variables
    string stringFromSlave;     // any messages from slave
    int i;                      // index
    string strI;                // string version of index

    // Set up Master NXT's Bluetooth
    TextOut(0, LCD_LINE1, "Master" );
    mastercheck(); // check Master bluetooth connection

    // Set up Master NXT's serial port
    UseRS485();                 // (1) Configure S4 for RS-485
    RS485Enable();             // (2) Activate RS-485
    RS485Uart(HS_BAUD_4800, HS_MODE_DEFAULT); // (3) Baud 112500 and default parity
    Wait(MS_1);                // (4) Wait briefly for port settings
    to be ready

    readBuffer = 0;
    while(true) { // keep reading and displaying strings received from PC until abort
        while(!RS485DataAvailable()) {
            // if no ASCII chars available, then do nothing
        };
        // Bytes ready, so now display and used them
        RS485Read(readBuffer);
        // ClearScreen();
        TextOut(0, LCD_LINE3, "PC's string" );
        TextOut(0, LCD_LINE4, ByteArrayToStr(readBuffer) );
        charsRead = ByteArrayToStr(readBuffer);
        // Clear buffer
        readBuffer = 0;

        // Send via Bluetooth, the string to Slave
        TextOut(0, LCD_LINE6, "BT message: " );
        TextOut(0, LCD_LINE7, charsRead);
        sendtoslave(charsRead);
        Wait(1000); // Wait 1 sec (same rate as PC)
        ClearLine(LCD_LINE4); // clear line displaying PC's message
        ClearLine(LCD_LINE7); // clear line displaying BT message
        ResetSleepTimer(); // keep Brick from sleeping and turning off Bluetooth
    connection
    }; // end while(true)
} // end main

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