Programming Technologies: BlueZ Programming

Due on Noviembre 2016

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Índice

Assignment 1

Implementar una aplicación con BlueZ para detectar dispositivos bluetooth vía Linux OS. Una vez detectados, entonces imprimir en la terminal bash:

- Clase del dispositivo.
- Dirección Bluetooth.

Listing 1: Detecting Bluetooth Devices

```
#include <stdio.h>
#include <stdlib.h>
#include <unistd.h>
#include <sys/socket.h>
#include <bluetooth/bluetooth.h>
#include <bluetooth/hci.h>
#include <bluetooth/hci_lib.h>

int main(int argc, char **argv)
{
    inquiry_info *ii = NULL;
    int max_rsp, num_rsp;
    int dev_id, sock, len, flags;
    int i;
    char addr[19] = { 0 };
    char name[248] = { 0 };

    dev_id = hci_get_route(NULL);
    sock = hci_open_dev( dev_id );
    if (dev_id < 0 || sock < 0) {
        perror("opening socket");
        exit(1);
    }

    len = 8;
    max_rsp = 255;
    flags = IREQ_CACHE_FLUSH;
    ii = (inquiry_info*)malloc(max_rsp * sizeof(inquiry_info));

    num_rsp = hci_inquiry(dev_id, len, max_rsp, NULL, &ii, flags);
    if( num_rsp < 0 ) perror("hci_inquiry");

    for (i = 0; i < num_rsp; i++) {
        ba2str(&(ii+i)->bdaddr, addr);
        memset(name, 0, sizeof(name));
        if (hci_read_remote_name(sock, &(ii+i)->bdaddr, sizeof(name),
            name, 0) < 0)
        strcpy(name, "[unknown]");
        printf("%s  %s\n", addr, name);
    }

    free( ii );
    close( sock );
    return 0;
```

Assignment 1 continued on next page. . .

```
}
```

Assignment 2

Implementar una aplicación *Cliente-Servidor* para comunicar vía Bluetooth el ATmegaX (Arduino) con Linux OS: Servidor Arduino/Cliente Linux.

Listing 2: BlueZ RFComm Client

```c
#include <stdio.h>
#include <unistd.h>
#include <sys/socket.h>
#include <bluetooth/bluetooth.h>
#include <bluetooth/rfcomm.h>

int main(int argc, char **argv)
{
    struct sockaddr_rc addr = { 0 };
    int s, status;
    char dest[18] = "01:23:45:67:89:AB";

    // allocate a socket
    s = socket(AF_BLUETOOTH, SOCK_STREAM, BTPROTO_RFCOMM);

    // set the connection parameters (who to connect to)
    addr.rc_family = AF_BLUETOOTH;
    addr.rc_channel = (uint8_t) 1;
    str2ba( dest, &addr.rc_bdaddr );

    // connect to server
    status = connect(s, (struct sockaddr *)&addr, sizeof(addr));

    // send a message
    if( status == 0 ) {
        status = write(s, "hello!", 6);
    }

    if( status < 0 ) perror("uh oh");

    close(s);
    return 0;
}
```