WoWWee MiP

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http://joost.damad.be/2013/08/experiments-with-bluetooth-low-energy.html
https://www.safaribooksonline.com/library/view/getting-started-with/9781491900550/ch04.html

Install bluez v5.3

TODO

http://www.bluez.org/download/ > bluez-5.27.tar.xz

bluez 5.27 :
$ sudo apt-get install libdbus-1-dev libudev-dev libical-dev
Error : “checking systemd system unit dir... configure: error: systemd system unit directory is required”
http://askubuntu.com/questions/343663/ubuntu-13-04-and-bluez-5-8-configure-error-systemd-system-unit-directory-is-re
$ ./configure --prefix=/usr --mandir=/usr/share/man --sysconfdir=/etc --localstatedir=/var
--enable-experimental --with-systemdsystemunitdir=/lib/systemd/system
--with-systemduserunitdir=/usr/lib/systemd
$ make

XPeria developer options

- For people who are facing problems in accessing developer settings here's the trick
- Go to Settings>About phone
- Tap on the build number 7 times
- Enjoy developer options

Using bluetooth device

$ hciconfig
Devices:
  hci1 00:1A:7D:DA:71:11

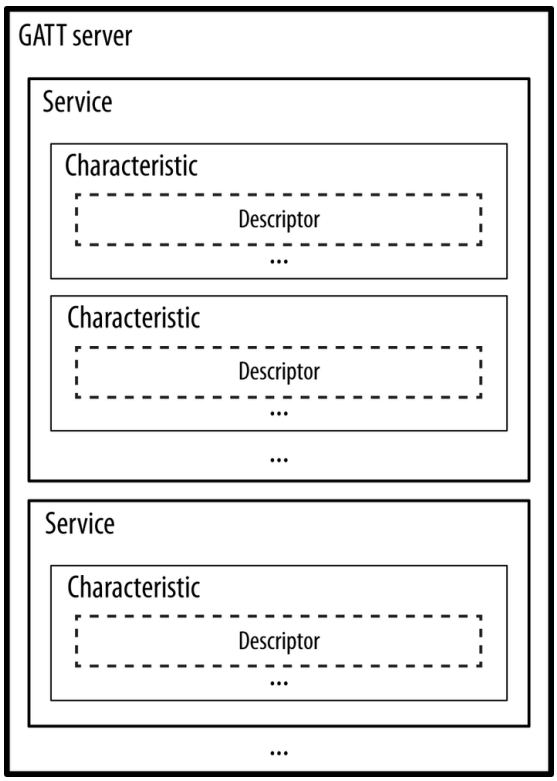
http://doc.ubuntu-fr.org/bluetooth#problemes_connus :
$ sudo rfkill unblock all
$ sudo hciconfig hci1 up

$ sudo hcitool -i hci1 lescan
D0:39:72:B7:AF:66 (unknown)
D0:39:72:B7:AF:66 Bubi

Connecting to MiP

$ sudo gatttool -i hci1 -b D0:39:72:B7:AF:66 -I
> connect

Get handles:



http://www.jaredwolff.com/blog/get-started-with-bluetooth-low-energy/
http://i-miss-erin.blogspot.fr/2010/12/gatttool-in-bluez-over-bredr.html

Discover all primary services:

> primary
attr handle: 0x0011, end grp handle: 0x0014 uuid: 0000ffe5-0000-1000-8000-00805f9b34fb
Send Data Service: 0xFFE5
attr handle: 0x000c, end grp handle: 0x0010 uuid: 0000ffe0-0000-1000-8000-00805f9b34fb
Receive Data Service: 0xFFE0

Discover characterstics:

> characteristics
handle: 0x0012, char properties: 0x0c, char value handle: 0x0013, uuid: 0000ffe9-0000-1000-8000-00805f9b34fb
Send Data WRITE Characteristic: 0xFFE9
handle: 0x000d, char properties: 0x10, char value handle: 0x000e, uuid: 0000ffe4-0000-1000-8000-00805f9b34fb

Receive Data NOTIFY Characteristic: 0xFFE4

Discover All Characteristic Descriptors:

> char-desc

Sending orders

LEDs are characteristics;
serviceId: MIPSendDataService, ffe5
characteristicId: MIPSendDataWrite, ffe9
value: SetChestLED; 0x84 r g b

https://github.com/WowWeeLabs
https://github.com/WowWeeLabs/MiP-BLE-Protocol
Command doc:
https://github.com/WowWeeLabs/MiP-BLE-Protocol/blob/master/MiP-Protocol.md

Read LED:
char-write-cmd <handle> value
> char-read-hnd 0x83
https://stackoverflow.com/questions/25536695/wowwee-mip-command-over-bluetooth-in-linux-shell-with-gatttool
http://www.compulab.co.il/utilite-computer/forum/viewtopic.php?f=77&t=1639

Set head LED
> char-write-cmd 0x0013 8A0202020201
Sounds:
> char-write-cmd 0x0013 0602

> char-read-hnd 0x000e
> char-write-cmd 0x0013 780060

Non interactive:
http://www.humbug.in/2014/using-gatttool-manualnon-interactive-mode-read-ble-devices/

Gatttool example

https://gitorious.org/bluez/moreira-bluez-mainline/raw/0831238284de7dcf994bf9e2c350bb9acdc959e2:attrib/gatttool.c
http://people.csail.mit.edu/albert/bluez-intro/c404.html