Clarinox
SPP Application

User Manual for SPP Application

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Content

1 Setup

When the SPP Application is run, it presents a menu to the user. The selections will provide the user with options to use the SPP application including; initialization, termination, searching for Bluetooth devices, connecting to Bluetooth devices and using the provided profiles. Below shows a typical screen printed when the SPP application is executed;

```
ClarinoxSoftFrame v4.3.1
    'Role' = 'Master'
    'TransportType' = 'TT_USB'
    'UsbPortName' = '\\.\CSR0'
    'TraceMode' = 'TraceOn'
    'ExtendedInquiryResponse' = 'TRUE'
    'DeviceID' = 'TRUE'
    'PageScanInterval' = '640'
    'PageScanWindow' = '632'
    'InquiryScanInterval' = '2048'
    'InquiryScanWindow' = '2040'
    'MaxInquiryPeriod' = '8'
    'MinInquiryPeriod' = '7'
    'MaxInquiryTimeUnits' = '6'
    'MaxDevicesToReport' = '8'

Local Device Address: 2c5c08b11100
Local Device HCI Version: 06
Local Device HCI Revision: 861d
Local Device Manufacturer: Cambridge Silicon Radio

ClarinoxBlue initialization completed
ClarinoxBlue version      6.0.4.12601
ClarinoxSoftFrame version 4.3.1
ClarinoxTasks version     2.2.0


Please select how to proceed:
        1. Initialize Bluetooth Stack
        2. Terminate Bluetooth Stack
        3. Connect to a paired device
        4. Wait for an incoming connection request
        5. Search for devices in proximity
        6. Make this device discoverable
        7. Make this device non-discoverable
        8. Go to connected device menu
        9. Delete the oldest pairing information
        10. Delete all paired devices
Select [1..10]:
```

The user has the option to select from [1..10]. These options are described below;

1.1 Initializing Bluetooth Stack

The role of this option is to initialize the Bluetooth stack The stack initiates

connection to the host (via USB, UART or any other method specified) at this point.

1.2   Terminate Bluetooth Stack

This option terminates the created stack and all its contents. The host is disconnected from the stack at this point.

1.3   Connect to a paired device

This menu item allows the user to connect to a paired device. A list of paired devices will be printed for user to select from. This allows a connection established between the SPP application and the selected device. A typical screenshot is provided below;

```
Please select a device:
        1. Shabnam iPhone (Human Interface Device Profile)
        2. Vivek's Android Phone (Phone)
        3. iPhone (Phone)
        4. Return to previous menu
Select [1..4]:
```

Once a device is selected from the above list, then the SPP menu will be displayed. Note that this option is not operational at this moment.

1.4   Wait for an incoming connection request

This option enables the SPP application to receive incoming connection requests rather than initiating a connection to another Bluetooth device. In this mode, the application waits for other devices to request a connection with the SPP application.

The user will be provided with the following message;

```
Waiting for an incoming connection . . .
```

1.5   Search for devices in the proximity

Allows searching for Bluetooth devices; it will continuously list the devices found in the vicinity. In order to be shown, devices must be set to 'discoverable'. The signal strength is printed in dBm for Bluetooth enabled devices. The signal strength will be provided to the user of the discovered Bluetooth enabled devices. A typical screenshot is provided below;

```
At any time, press C to stop searching.
```

```
Enter c to stop searching [cC]:
Device Discovered: HP (Computer)
Vivek's Android Phone (Phone)
Device Discovered: Toshiba (Computer)
Device Discovered: iPhone (Phone)
Device Discovered: LG (Computer)
```

Once the device of interest appears on the list, pressing "c" will cancel searching and the discovered devices will be printed with an associated device identification number. User may select the number of the device of interest for continuing with the pairing operation. A typical screenshot is provided below:

```
Select a device to pair:
        1. HEALTHMETRICS (RSSI: -80dBm)
        2. Octopus (RSSI: -85dBM)
        3. iPhone (RSSI: -51dBm)
        4. HELLCAT (RSSI: -80dBm)
        5. BlueAnt ST3 (RSSI: -73dBm)
        6. Return to previous menu
Select [1..6]:
```

Depending on the support levels of both devices, either legacy pairing or secure simple pairing will be executed. If legacy pairing is used, then both devices will prompt the user to enter a pin-code. If secure simple pairing is used, then the process will be dependent on the input/output capabilities. Either a pass code will be displayed on one device and the other device will be required to confirm pairing (y-yes/n-no) or a pass code will be displayed on both devices and verification (y-yes/n-no) that both devices display the same pass code will be required.

If successful the user should get the following message;

```
Pairing complete with the result: CLX_SUCCESS
```

If unsuccessful, the user will get a message as follows;

```
Pairing complete with the result: CLX_ERROR_COMMAND_UNSUCCESSFUL
```

1.6   Make this device discoverable

Once the device is put in discoverable mode, other devices are able to discover and connect to this Bluetooth device.

The following will be printed when this item is successfully executed;

```
Device put in Discoverable mode
```

1.7 Make this device non-discoverable

Once the device is put in this mode, other devices cannot discover and connect to this Bluetooth device.

The following will be printed when this item is successfully executed;

```
Device put in Non-Discoverable mode
```

1.8 Go to connected device menu

Provides the user with the SPP user interface menu.

```
Enter your selection :
    1. Connect to SPP1
    2. Send Data to SPP1
    3. Disconnect from SPP1
    4. Enter Echo Test Mode
    5. Exit Echo Test mode
    6. Hard reset
    7. Return to previous menu
```

1.8.1 Connect to SPP1

This option discovers the available SPP channels on the remote device and connects to the first available channel.
The following will be printed when this item is trying to discover the COM ports on the remote device;

```
Discovering COM ports on the remote device…
Connecting to COM port "Port1" on the remote device…
```

Once the connection is successful, the following message will be printed;

```
SPP1 connected to Bluetooth device
```

1.8.2 Send Data to SPP1

Sends a block of data to the remote device. This option is used to test the speed of data transfer between the SPP devices. Once the data transfer is completed, the transfer duration will be displayed in milliseconds and the transfer speed will be displayed in bytes/sec and bits/sec.

The following illustrates an example data transfer duration and speed of transfer;

```
SPP1 Time elapsed : 245 milliseconds
SPP1 Average Transfer Speed : 176000 bytes/sec, 1408000 bits/s
```

1.8.3 Disconnect from SPP1

Disconnects from the remote SPP device. Once the disconnection is successful the following message is displayed

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```
Eg:
SPP1 with the device ID: 3 Disconnected from the Bluetooth device
```

1.9   Delete the oldest pairing information

This option deletes the information stored just the earliest paired Bluetooth device. This information can be found in the configuration file (ClarinoxBlue.cfg).

1.10 Delete all paired devices

This function allows the SPP application to delete all of the paired device information from the configuration file (ClarinoxBlue.cfg).
The following message would be printed when deletion is completed successfully.