Development resources

An overview of Nordic Semiconductors
development tools and resources.

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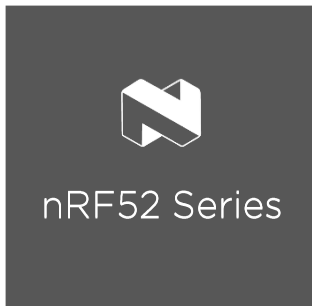Nordic Semiconductor

2016

Agenda – part 2 – Development resources

nRF52 Series

- Code walk-through

- Tools offered by Nordic

- Resources

SDK examples – Heart rate profile

- Code overview/simple walkthrough

Predefined applications/profiles

Single XML Download

SpecificationName	SpecificationType	SpecificationLevel
Alert Notification	org.bluetooth.profile.alert_notification	Adopted
Blood Pressure	org.bluetooth.profile.blood_pressure	Adopted
Cycling Power	org.bluetooth.profile.cycling_power	Adopted
Cycling Speed and Cadence	org.bluetooth.profile.cycling_speed_and_cadence	Adopted
Find Me	org.bluetooth.profile.find_me	Adopted
Glucose	org.bluetooth.profile.glucose	Adopted
Health Thermometer	org.bluetooth.profile.health_thermometer	Adopted
Heart Rate	org.bluetooth.profile.heart_rate	Adopted
HID OVER GATT	org.bluetooth.profile.hid_over_gatt	Adopted
Location and Navigation	org.bluetooth.profile.location_and_navigation	Adopted
Phone Alert Status	org.bluetooth.profile.phone_alert_status	Adopted
Proximity	org.bluetooth.profile.proximity	Adopted
Running Speed and Cadence	org.bluetooth.profile.running_speed_and_cadence	Adopted
Scan Parameters	org.bluetooth.profile.scan_parameters	Adopted
Time	org.bluetooth.profile.time	Adopted

https://developer.bluetooth.org/gatt/profiles/Pages/ProfilesHome.aspx

- Defined by Bluetooth SIG
  - Have a defined behavior

- Compatible with all* devices

- Qualified BLE service files in the SDK
  - When left unmodified, no re-qualification required
  - Service interface changed → re-qualification required

- (Re-)Qualification: Profile Tuning Suite (PTS)

nRF52-DK

Development kit with debugger

- BLE, ANT, 2.4 GHz
- NFC interface with antenna
- UART through nano-USB
- Programmer/debugger: Segger J-link
- Program custom board
- Arduino Uno shield compatible
- ARM mbed enabled

Tools

Sniffer

Track transmitted packets
Hardware: nRF51DK/Dongle

Windows, Linux

Mobile apps

Nordic provides several apps,
with source code
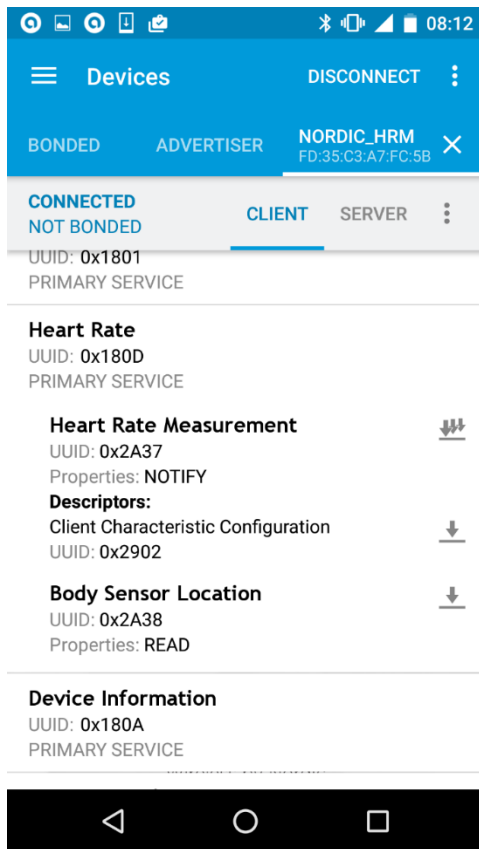
Central (and peripheral)
role(s)

iOS, Android, Windows

nRF Connect

PC/phone tool for
testing/debugging connections:
do application independent
operations

Central and peripheral roles

Windows, Linux, OSX
Android, iOS

Tools – nRF Connect (phones)

Tool for testing and debugging BLE applications

- Scan for devices
- Read advertisement data
- Connect/bond
- Exchange of data
  - Read, write, enable notifications/indications
- Device firmware update (DFU)
- Advertising (supported devices)
- Android and iOS

Infocenter – infocenter.nordicsemi.com

Contains all necessary information and documentation

- Getting started
- Documentation:
- Softdevice
  - Softdevice specification
  - API
- SDK
  - User guides
  - Documentation of examples
  - Libraries
  - API
- Reference layouts
- White papers
- Application notes

Other resources

Devzone

devzone.nordicsemi.com
- Forum
- Tutorials
- Blogs

github

- Unofficial examples
- Mobile apps source code
- PC: library for BLE development

SDK download

developer.nordicsemi.com