Oniro's Blueprints

P.Coval + A.Gherzan

#FOSDEM2022

Agenda

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- Who is talking?

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- Q&A

Presentation

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- We're a part of:
    - Eclipse Oniro project
    - Huawei OpenSource Techology Center

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- It's a teamwork:
    - Thx @bero, @sudhesh, @stefan, @pidge, Seco's @fabio...

What's Oniro Project?

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  - Targeting IoT devices

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  - Targeting IoT devices
- Defragment development for embedded sys:
  - Avoid technology silos
  - Unified tooling, common policies

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- Designed to be OpenHarmony compatible
  - project hosted @ OpenAtom Foundation

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- Common build tooling (bitbake OE/Yocto)
- Point of convergence
  - For product-based projects

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- Maintenance with reproducibility in mind

Blueprints' use cases

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- Product foundations based on use-cases:
    - Vending machine, Key Pad
    - Door lock
    - IoT gateway

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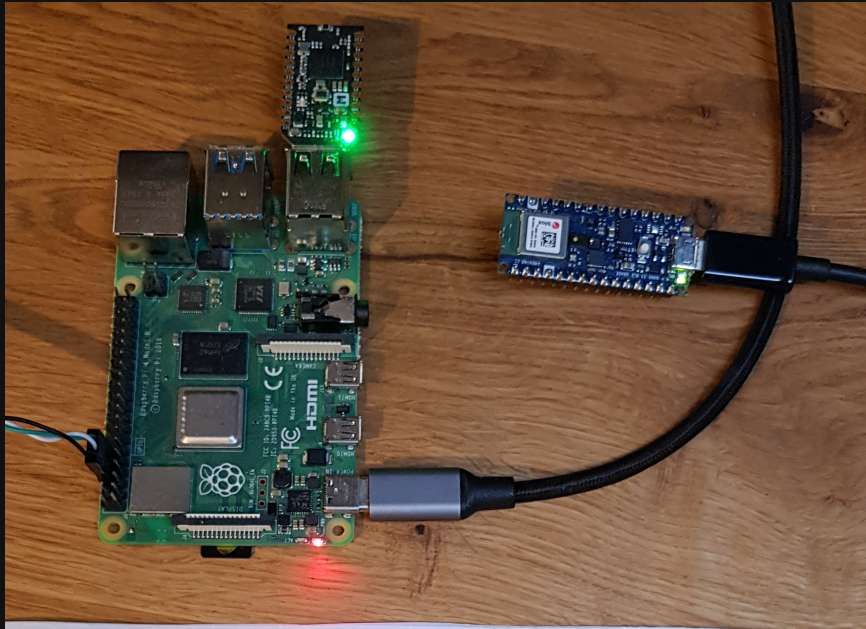- Your use-case, your product.

Oniro's Vending machine
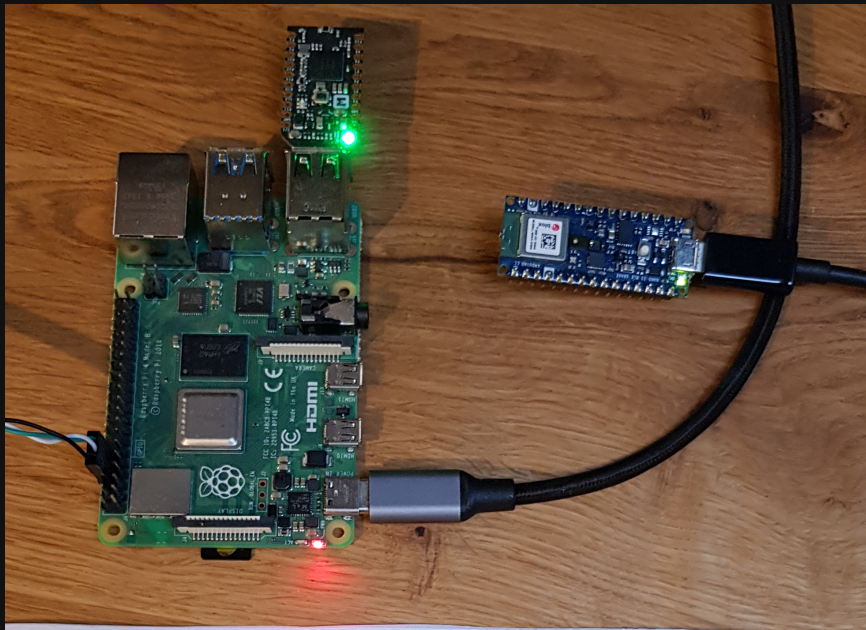
Oniro's Keypad

Door lock

IoT Gateway

Board: Ardunio Nano 33 BLE Sense
EUI64: f4ce36508a0473d1
Password: J01NU5

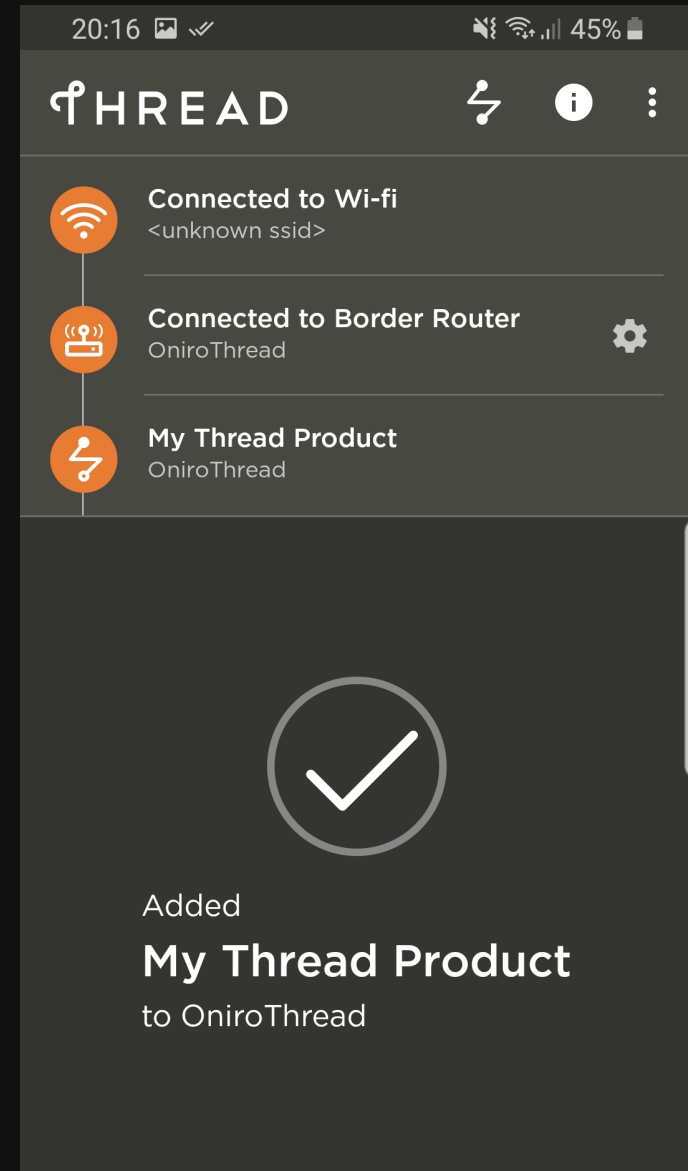Ardunio Nano 33 BLE Sense
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Ardunio Nano 33 BLE Sense
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20:16

THREAD

Connected to Wi-fi
<unknown ssid>

Connected to Border Router
OniroThread

My Thread Product
OniroThread

Added
My Thread Product
to OniroThread

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- Get inspired to add your $custom blueprint alon
  - matching the kernel ($flavour) of choice

Build custom blueprint

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export DISTRO="oniro-$flavour-$custom"
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  ```
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  ```

- Build image to be deployed to device

  ```
  bitbake blueprint-$custom-image # for Linux based BP
  ```

  ```
  bitbake zephyr-blueprint-$custom # for Zephyr based BP
  ```

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    - Your own Oniro-based demo or product!
- Visit FOSDEM Oniro Stand for more!

Resources and more:

- https://oniroproject.org/
    - https://docs.oniroproject.org/
    - https://docs.oniroproject.org/projects/blueprints/
    - https://booting.oniroproject.org/
- https://eclipse.org/
- https://yoctoproject.org/
- https://zephyrproject.org/

+ Extras ?

- Oniro playlist
- Fosdem 2021
- EclipseCon 2021
- SFSCON2021

Howto: IoT Gateway

Howto: Doorlock

Howto: Vending machine

Oniro's Zephyr flavour

- Use mainline zephyr kernel
    - Upstream's Zephyr use west
- Oniro uses bitbake (like on Linux)
    - Uses meta-zephyr + meta-zephyr-bsp

Build Keypad

- repo init -u https://booting.oniroproject.org/distro/oniro
- git clone https://booting.oniroproject.org/distro/meta-oniro-blueprints
- TEMPLATECONF=../oniro/flavours/zephyr ./oe-core/oe-init-build-env build-oniro-zephyr
- export MACHINE=nrf52840dk-nrf52840
- bitbake zephyr-blueprint-keypad

Video Playback