

WoT Device Emulator

Presenter

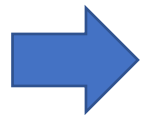
Hiroki Endo

Outline

- Background
 - future media use case verification
 - IoT-based Media Framework
- **WoT device Emulator**
 - Examples of virtual WoT devices
 - Demo
 - Control from Node-RED with [node-red-contrib-web-of-things](#)
 - How a virtual device works as a WoT device

Background - Future media use case verification

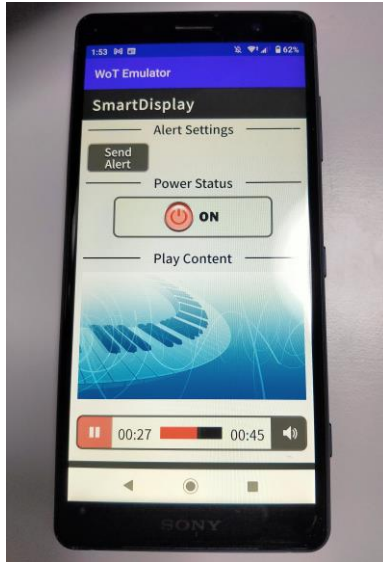
- To verify user experience, we need **physical devices** that provide media content.
 - We are developing autonomous media presentation framework, IoT-based Media Framework <https://www.nhk.or.jp/str/english/open2021/tenji/8/2.html>
- Devices that do not currently act as IoT devices should be covered.
- However, **it's hard to prepare devices and also to prototype imaginary devices.**



WoT device Emulator

- Turns an Android device into a **virtual WoT device**.
- Virtual WoT devices can **behave as real devices** and **present media**.
- **WoT Thing Descriptions** becomes a virtual device.

Examples of virtual WoT devices



Smart Display

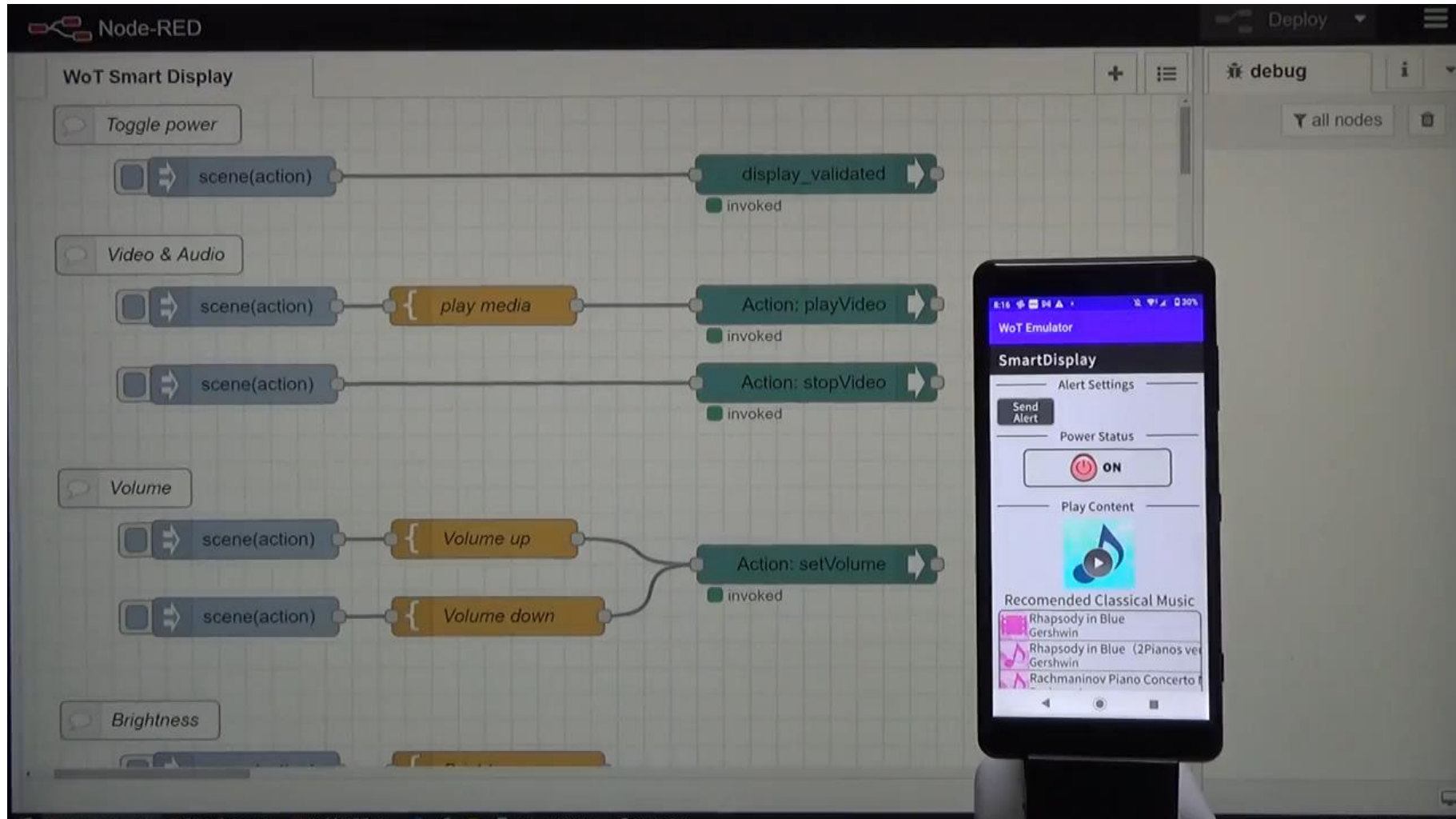
- properties
 - power status
- actions:
 - play videos and audio
 - display web sites
- events:
 - advertise weather alerts



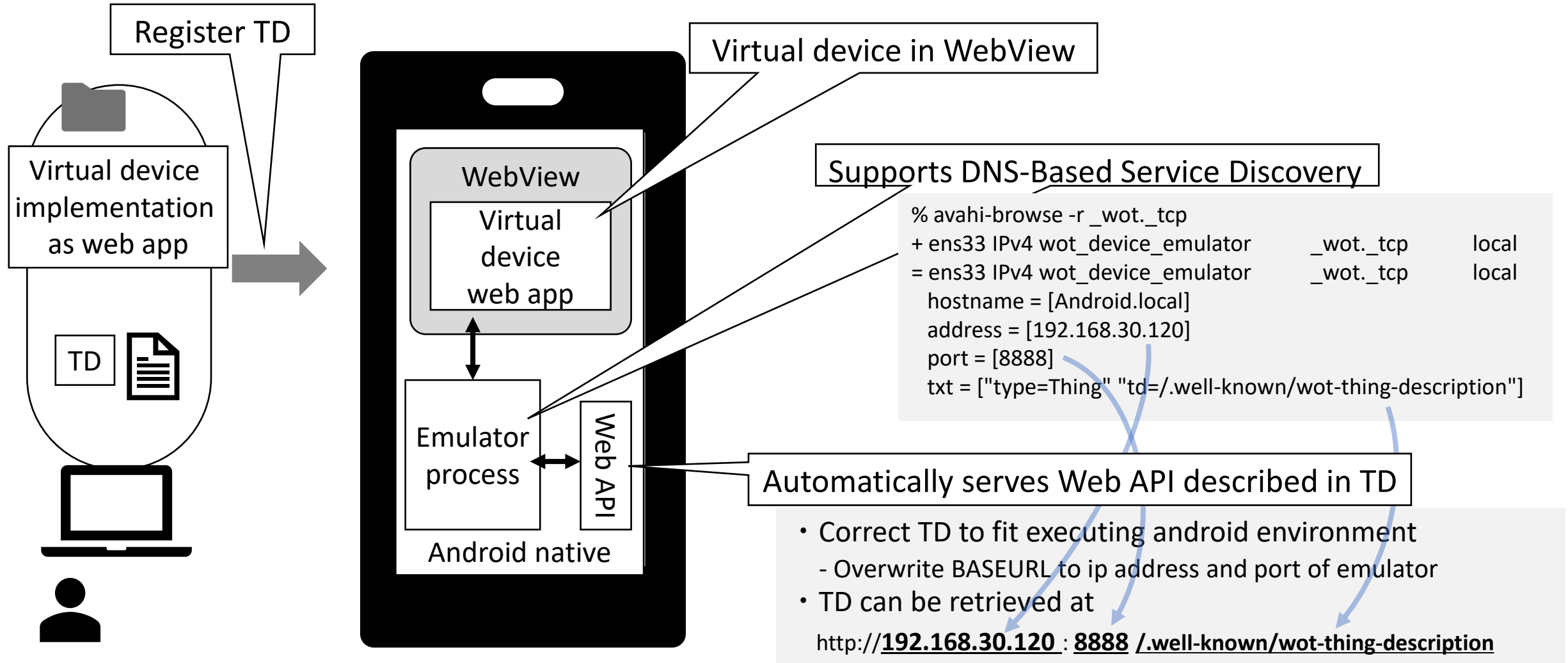
Smart Cutting board

- properties
 - sense weight value
- actions
 - teach how to cook
- events:
 - notice to be washed

Demo (a virtual device controlled by Node-RED)



How a virtual device works as a WoT device



Many thanks

- We have benefited great contributions from WoT community.
 - node-red-contrib-web-of-things
 - node-wot
 - Thing Description Playground
 - Discovery prototypes
 - Plugfest managements including VPN Network and others
- Media use cases with emulators will be introduced in vf2f.
- We're working on legal process in NHK to contribute the emulator. (However, It may take some time.)