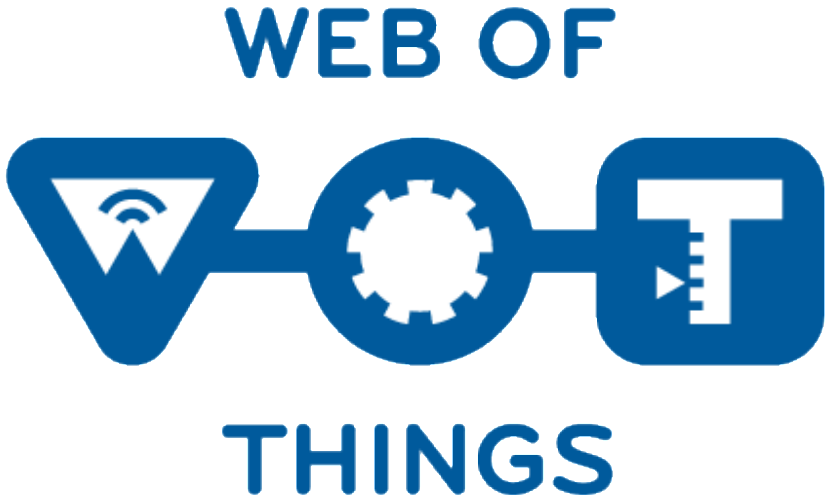


Media Use Cases and Issues

Presenter

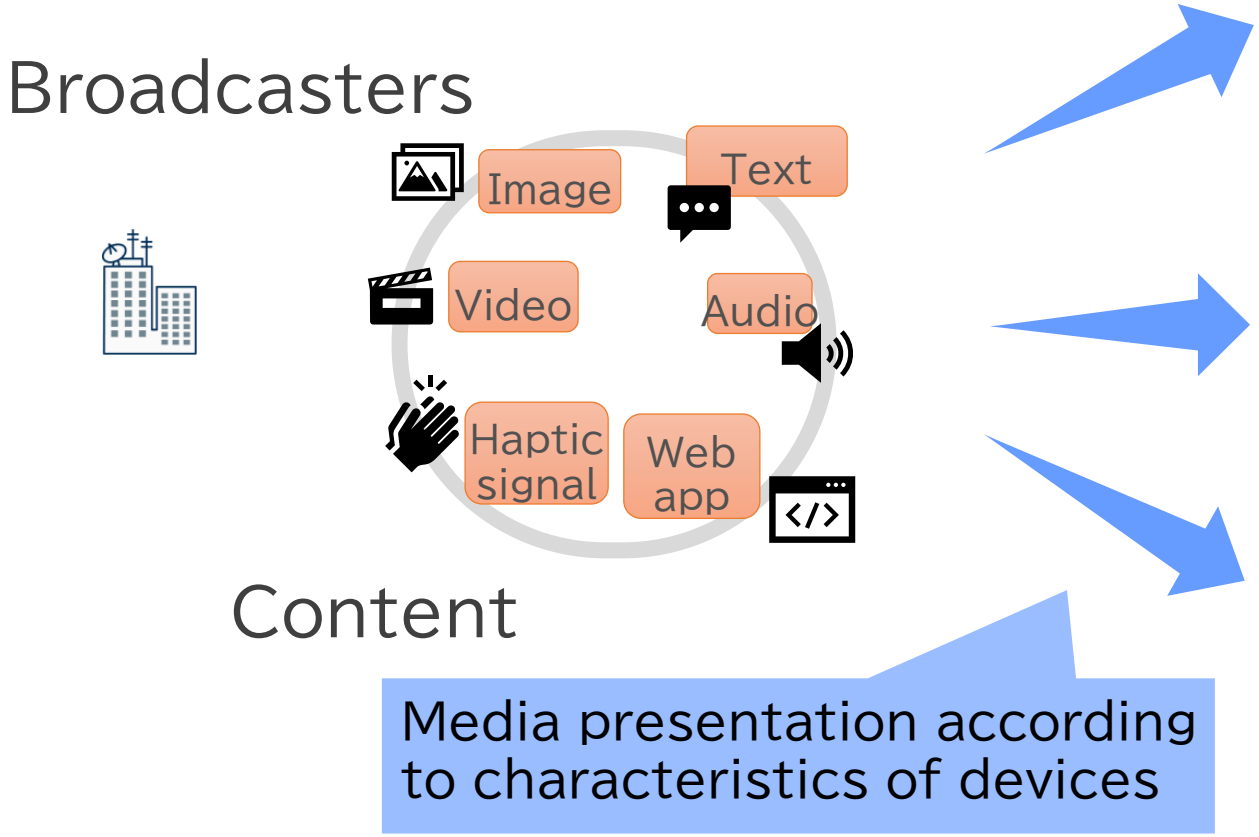
Hiroki Endo

Outline

- Objective
- “IoT-based Media Framework” as a proposed solution
  - Imple. 1: Physical laboratory
  - Imple. 2: Virtual Web app
- Findings from our implementations

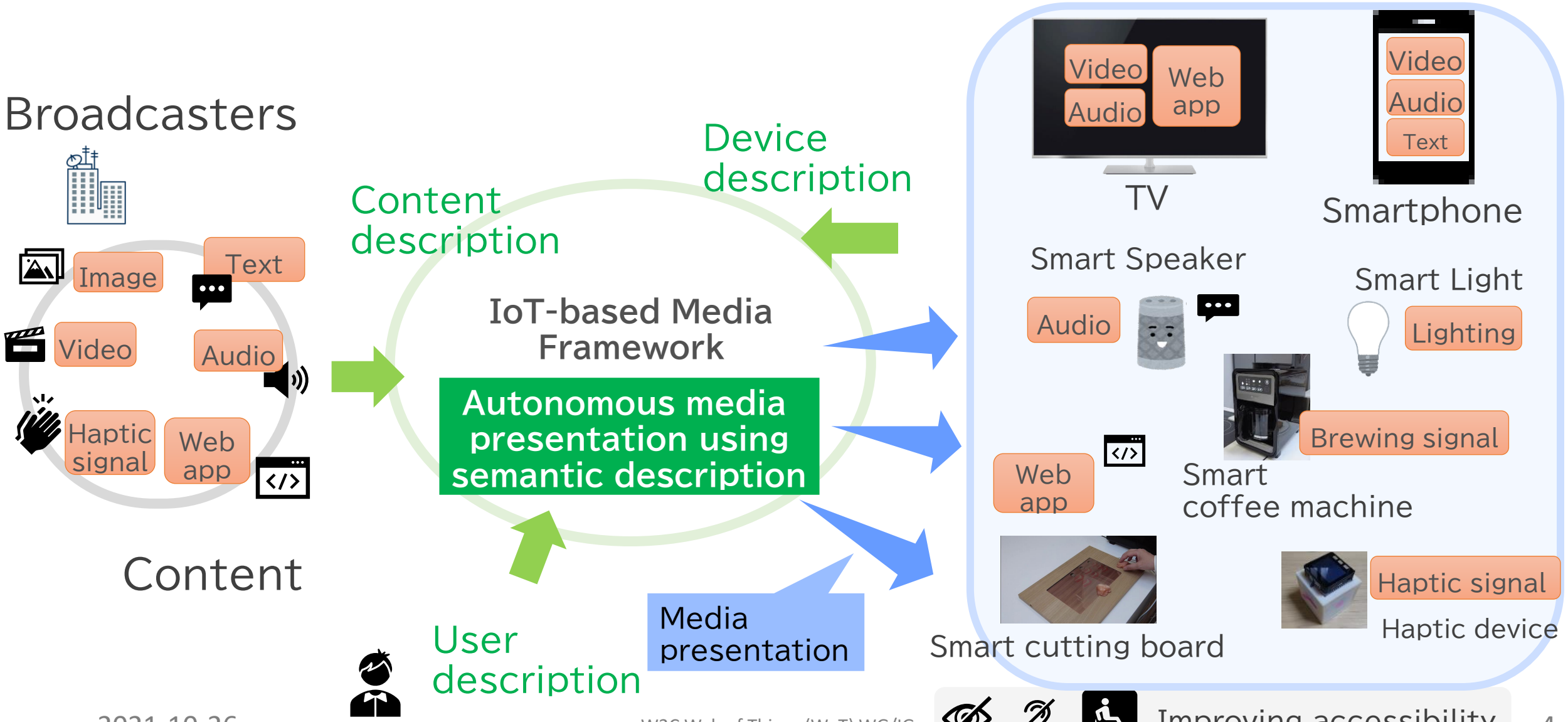
Objective

- Future broadcasters will deliver content not only for TV sets, but also for various IoT devices!

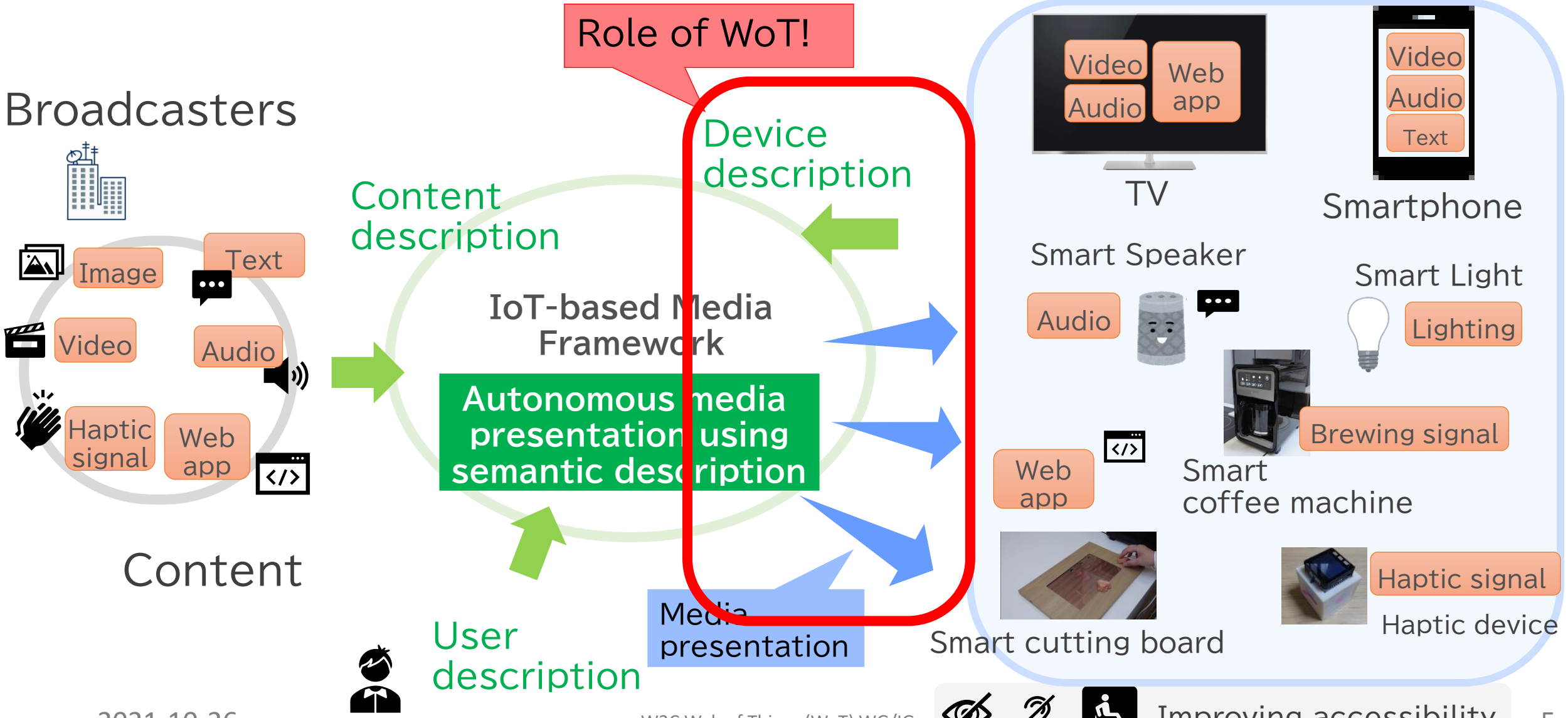


Improving accessibility

“IoT-based Media Framework” as a solution



“IoT-based Media Framework” as a solution

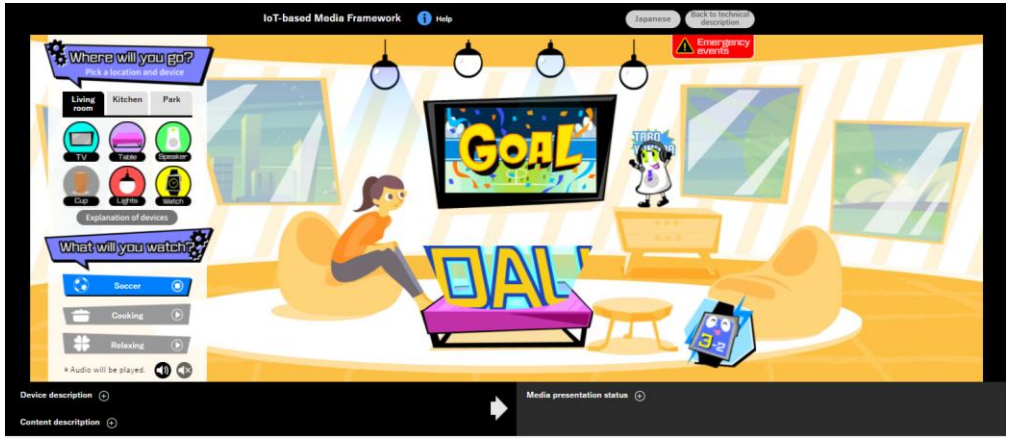


Improving accessibility

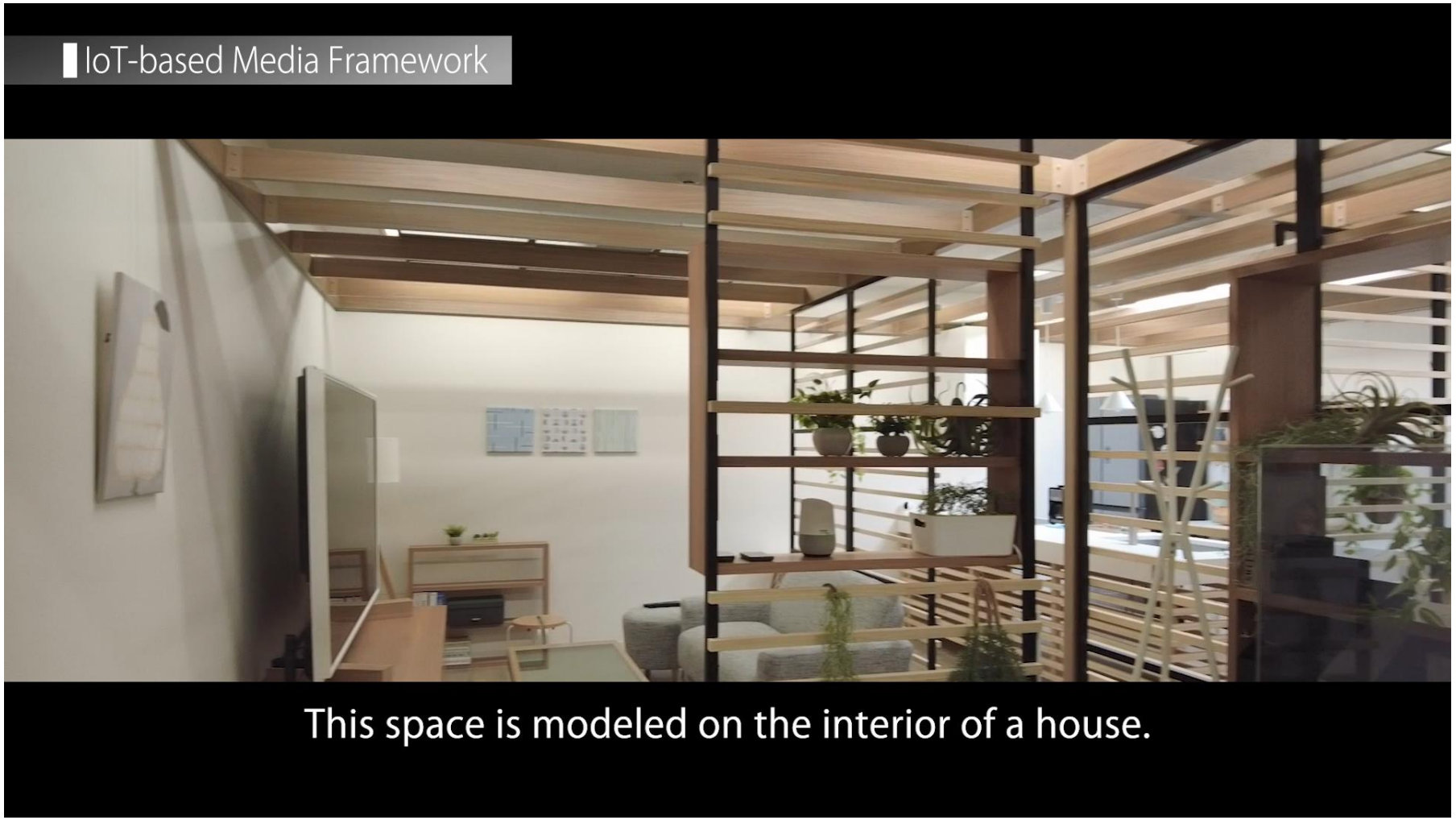
Two implementations for our use cases

1. Physical laboratory (demo)
   - UX testing
   - Prototyping

2. Virtual Web app (demo)
   - To stimulate the imagination
   - For entertainment!



Imple. 1: Physical laboratory (demo)



Imple. 1: System configuration

Soccer goal events
Soccer half-time events

Content information

User information

Environment information

User locations

Weather alerts

Media presentation applications

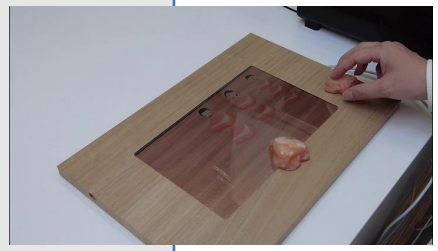
node-red-contrib-wot
(build upon node-wot)

DNS-SD

Thing description

Discovery & Affordance

Media presentation



Smart cutting board

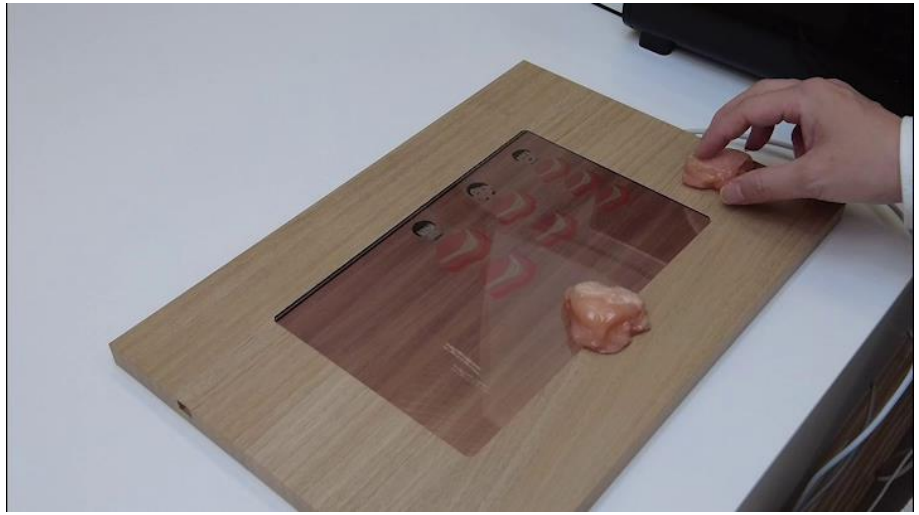
Implemented on Node-RED

Using the WoT device emulator

- For future possible WoT devices
  - Originally, media presentation with physical devices were necessary.
  - However, it costs much!
  - So virtual devices using the WoT device emulator is created.

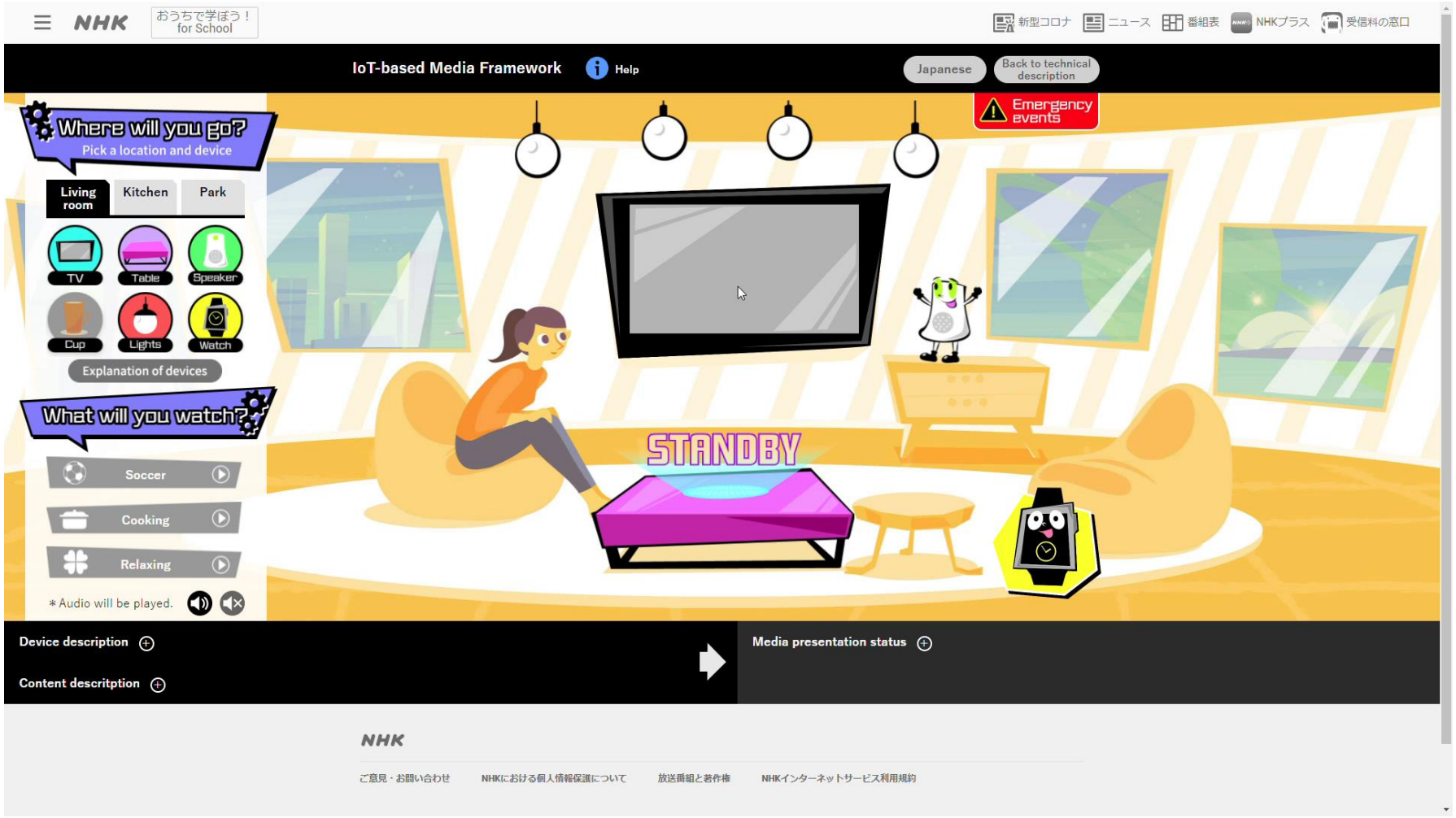
- Provided to the Plugfest at TPAC 2021
  - https://github.com/w3c/wot/blob/main/PRESENTATIONS/2021-10-online-f2f/2021-10-11-WoT-F2F-OpenDay1-Endo.pdf

A Big thank you to the WoT group members!



Smart cutting board

Imple. 2: Virtual Web app (demo)



https://www.nhk.or.jp/strl/english/open2021/tenji/8/app/index.html

Findings from our implementations

1. Issues on Discovery
2. Action Affordance for media presentations

Issues on Discovery

- Broadcasters cannot handle WoT devices in user environment .
- Typically, houses do not have a network manager.

We need a simple, excellent discovery method

- *DNS-SD* is very effective only with in local networks.
- *Intelligent directory* could work (JSONPath, sparql).
- *Discovery using DID* has also possibility assuming device managements.

Action affordance for media presentations

To realize autonomous presentations,
we need link information to WoT actions and content.

Thing Description

actions has the key for link to the content

Content description

"mediaType": "TVEpisode"

Need to define:

- mediaType of the content
- correspondig action type

Example of simple content-action mapping

Thing action "type"	Content "mediaType"
playBroadcasting	TVEpisode
playAudio	AudioObject