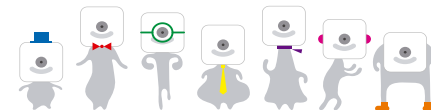# HVC-C2W Developer Guide

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Outline

This documentation describes the use of HVC-C2W with the SDK.

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▣ Product Outline

HVC-C2W is a sensing device incorporating 11 image sensing functions (Human Body Detection, Face Detection, Hand Detection, Face Direction Estimation, Gaze Estimation, Blink Estimation, Age Estimation, Gender Estimation, Expression Estimation, Face Recognition and Pet Detection) that can recognize people.

HVC-C2W can be operated with the SDK through a host, for example a smartphone. SDKs are available for iOS, Android, Windows and limited Linux platforms.
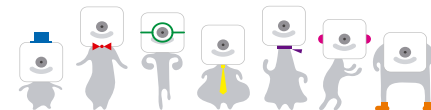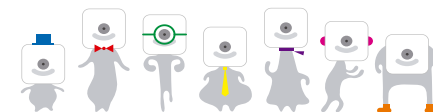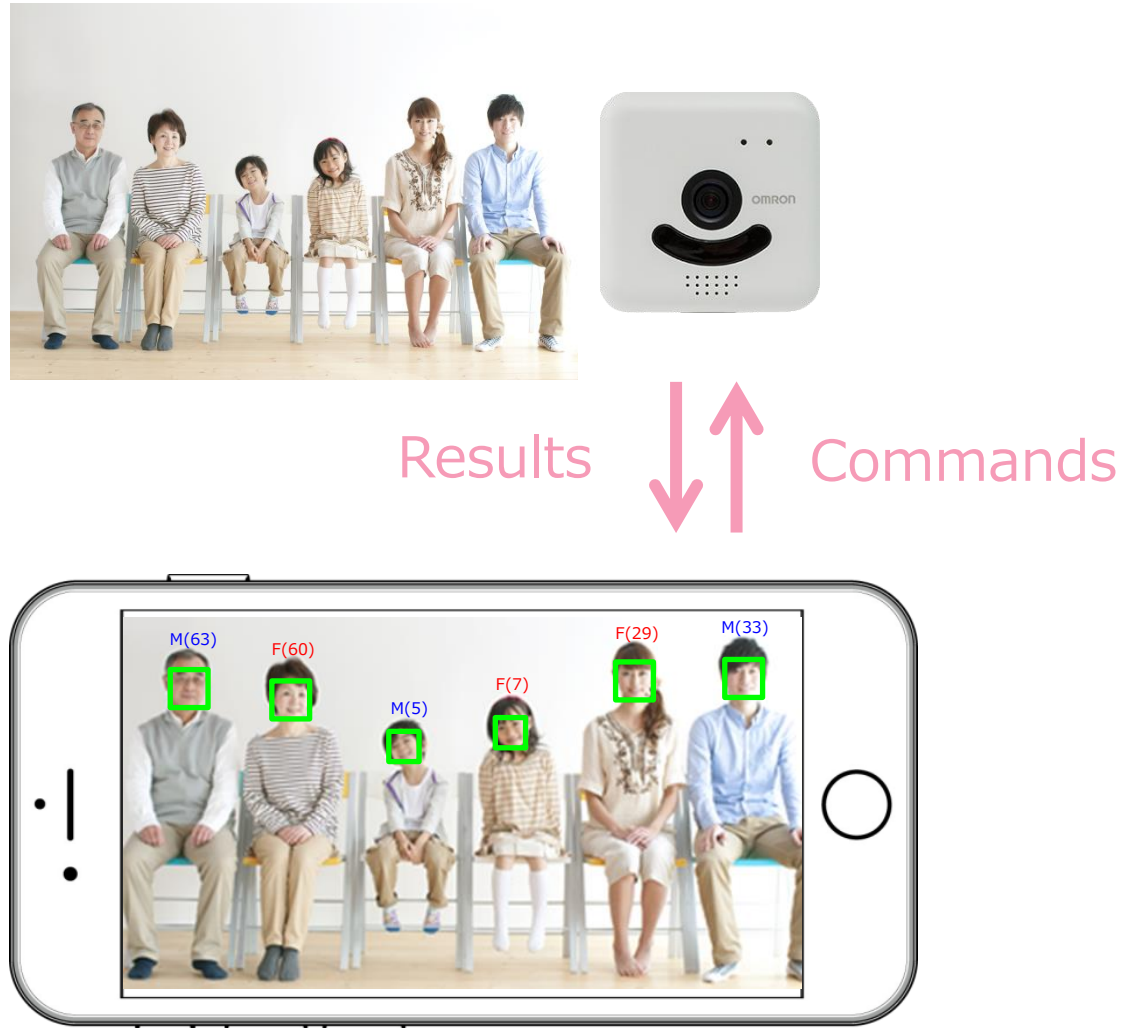
Usage ①: Network Camera

- Video feed is available from the network camera.
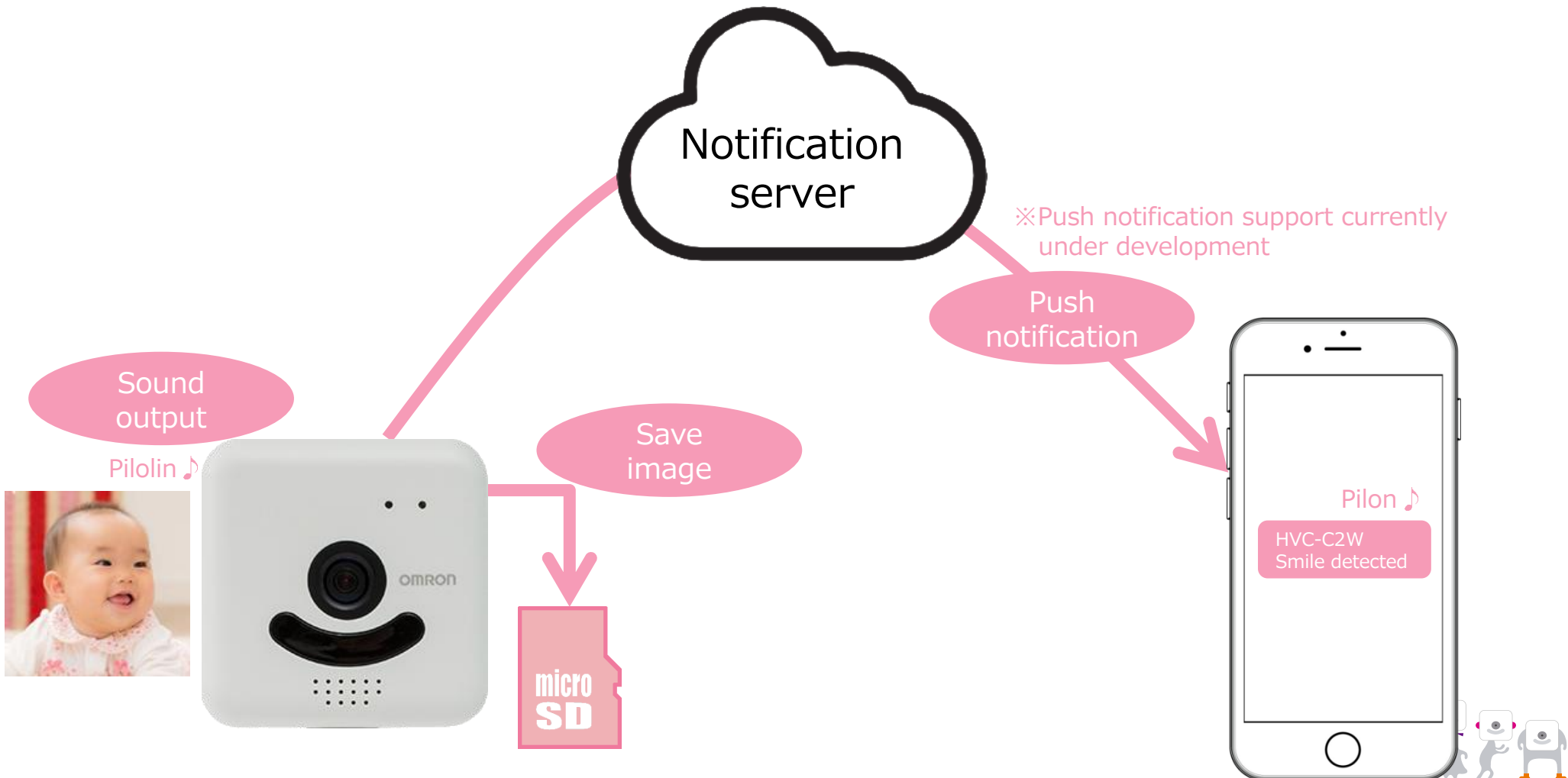- Conversation is possible through the mic and speaker.

Two-way talk

Live view

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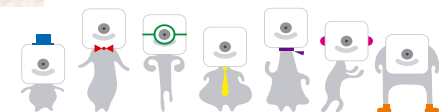
Receive commands from a smartphone or tablet device through wireless LAN and send back the results.
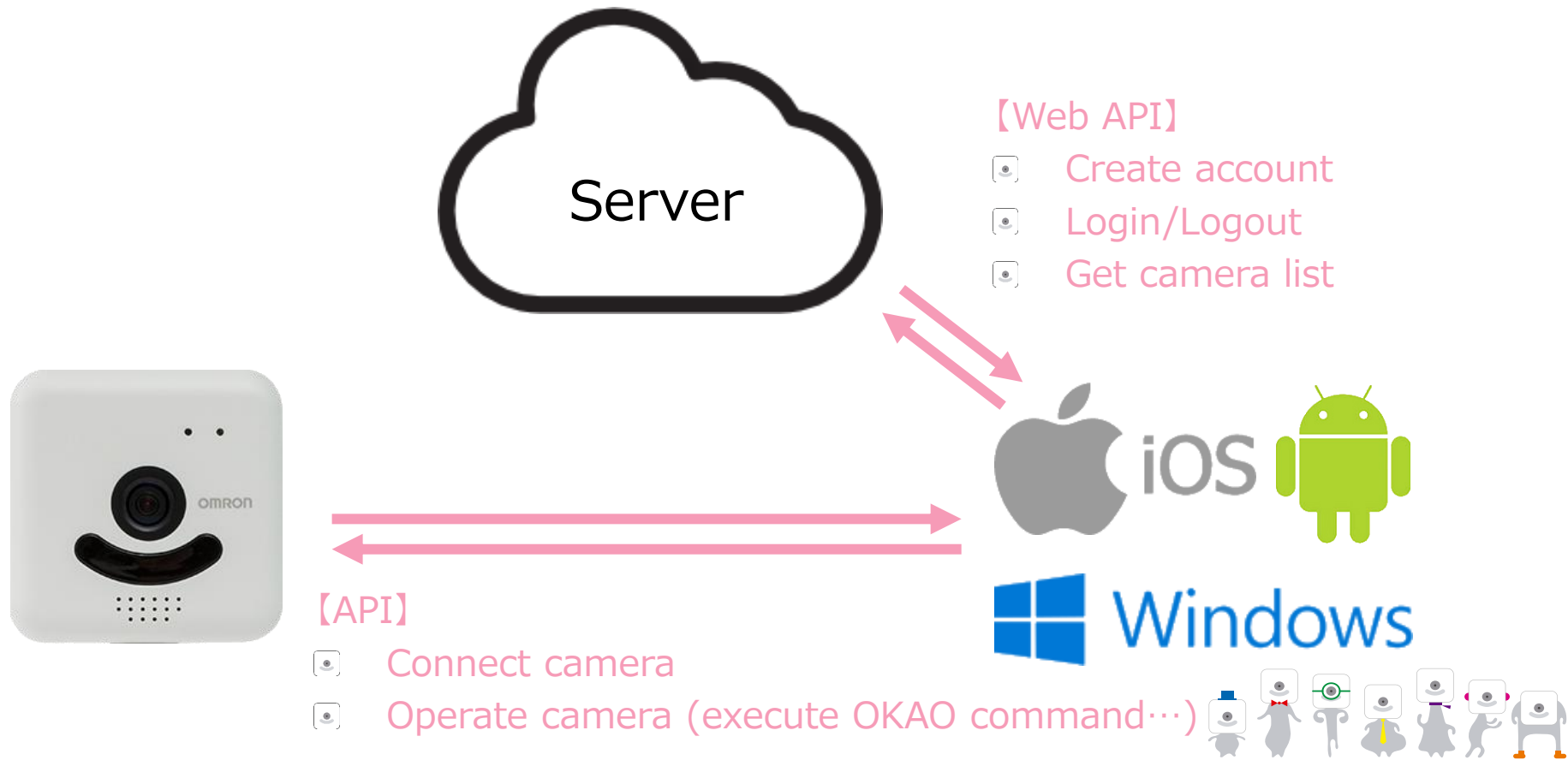

Results ⬇⬆ Commands

Usage ③: Standalone Type

The camera will operate on its own and the device will save images and send sound notifications when specified events are detected.

Notification server

※Push notification support currently under development

Push notification

Sound output

Pilolin ♪

Save image

micro SD

Pilon ♪

HVC-C2W Smile detected

System Structure

- Use the Web API to access the server-stored account and camera info.
- Use the API to connect and operate the camera (execute OKAO commands…).

Server

【Web API】
- Create account
- Login/Logout
- Get camera list

【API】
- Connect camera
- Operate camera (execute OKAO command…)

iOS Android

Windows

SDK Operation Sequence

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1. Create account 【Web API】
2. Login 【Web API】
3. Create sound file 【API】
4. Pairing (play sound file)
5. Get camera list 【Web API】
6. Connect camera 【API】
7. Execute OKAO command 【API】
8. Logout 【Web API】
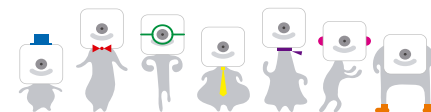
Sequence 1: Create account (Web API) OMRON

- Create an account in the system using a personal email address.

- Request URL
  https://developer.hvc.omron.com/c2w/api/v1/signup.php

- Request parameters

Parameter	Type	Required	Description
apikey	String	○	API key
Email	String	○	Specify the user's email address for registration

- Request example

  https://developer.hvc.omron.com/c2w/api/v1/signup.php HTTP/1.1
  connection: close
  content-type: application/x-www-form-urlencoded

  apiKey=0123456789abcedfghijk&email=taro.omron@omron.co.jp
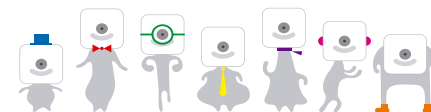
Sequence 2: Login (Web API)

- Use an app to log to the cloud server service through the Web API.

- Request URL
  https://developer.hvc.omron.com/c2w/api/v1/login.php

- Request parameters

Parameter	Type	Required	Description
apikey	String	○	API key
deviceId	String	○	Device ID
osType	Integer	○	OS type (0: iOS, 1: Android, 99: Windows)
email	String	○	Email address for login
password	String	○	Login password

- Request example

  https://developer.hvc.omron.com/c2w/api/v1/login.php HTTP/1.1
  connection: close
 content-type: application/x-www-form-urlencoded

  apiKey=0123456789abcedfghijk&deviceId=1d25c651207854c50561&os_type=0&
  email=taro.sato@omron.co.jp&password=12345678

Sequence 3: Create sound file (API)

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- Create the sound file used for network settings.

- API Name
  HVCW_GenerateDataSoundFile()

- Functions

| Function name	I/O	Description
pucTargetFile	Input	Save destination file for sound file
pucSSID	Input	Network name (SSID)
pucPassword	Input	Password
pusAccessToken	Input	Access token ※Obtainable at login

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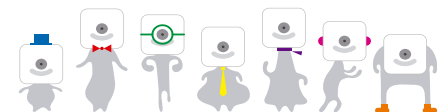
⊡ Make sure to implement a program playing the sound file.

Hold the function switch for more than 3 seconds.

The LED will flash red.

※Please proceed after waiting for at least 30 seconds and hearing the initialization completion sound after powering up the device.

Sound output

🔊 The sound file will be played during pairing
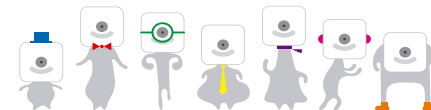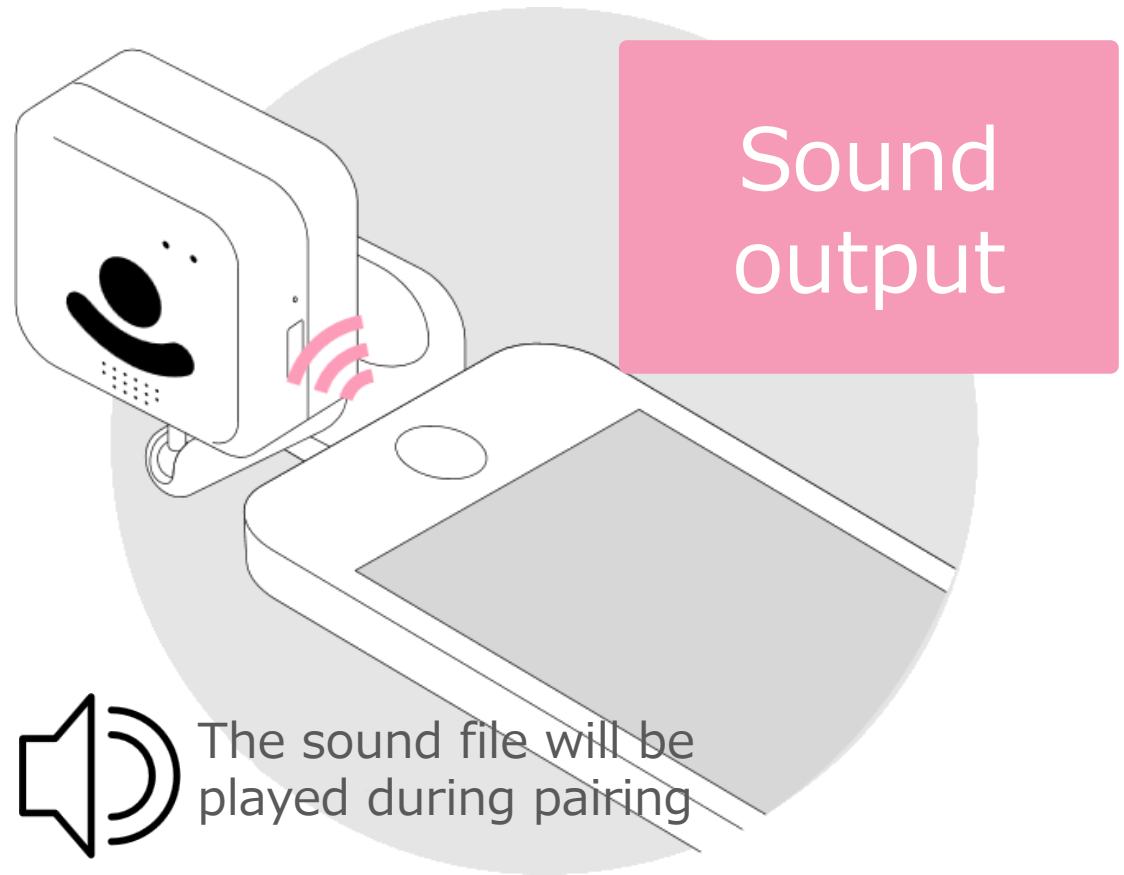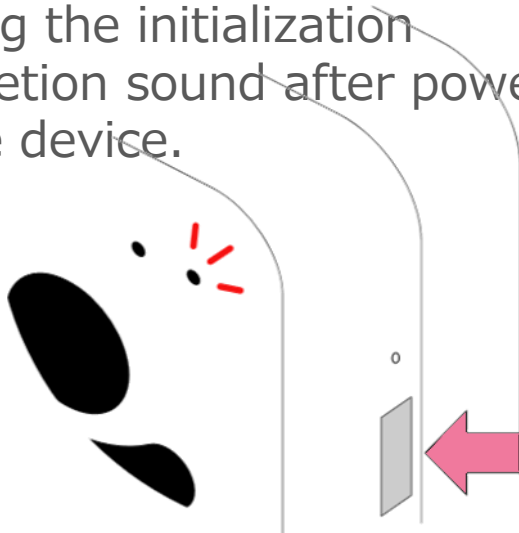
Sequence 5: Get camera list (Web API) **OMRON**

- Get the list of registered cameras.

- Request URL
  https://developer.hvc.omron.com/c2w/api/v1/getCameraList.php
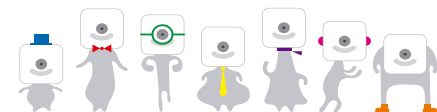
- Request parameters
  none

- Request example

  https://developer.hvc.omron.com/c2w/api/v1/changePassword.php HTTP/1.1
  connection: close
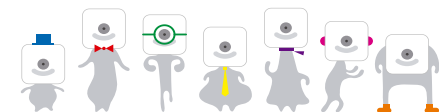 Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09

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- Connect the camera to be used.

- API Name
  HVCW_Connect()

- Functions

Function name	I/O	Description
hHVC	Input	HVC handle
pucCameraId	Input	Camera ID
pucAccessToken	Input	Access token

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- Execute an OKAO command (detection, estimation).

- API Name
  HVCW_OKAO_Execute()

- Functions

Function name	I/O	Description
hHVC	Input	HVC handle
abUseFunction	Input	Function flag
pResult	Output	Results
pucReturnStatus	Output	Command status
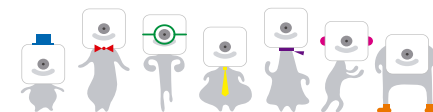
Sequence 8: Logout (Web API)

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- Log out from the cloud server service.

- Request URL
  https://developer.hvc.omron.com/c2w/api/v1/logout.php

- Request parameters
  none

- Request example

  https://developer.hvc.omron.com/c2w/api/v1/logout.php HTTP/1.1
  connection: close
  Authorization: Bearer e63b1457775e3a3be48ab688f0b8583b9149ad09

Revision History
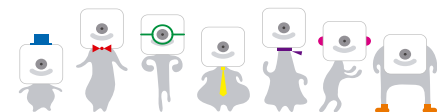
Date	Rev.	Contents	Created by	Reviewed by	Approved by
2016/02/15	A	First release	K.Tanaka	S.Manabe	O.Matsutake