

PROMPT

Identify two embedded systems that are sold on the market today and analyze their interfaces.

Two embedded systems sold on the market today:

1. Smart Watch
2. IoT-enabled digital lock

Interfaces

1. Small user interface but the content can be changed dynamically
2. Small user interface to enable access verification (e.g., keypad to enter pin, a high-def camera to enable facial recognition)

PROMPT

Describe all inputs to each system and outputs from each system.

Smartwatch Inputs/Outputs

Input: Touchscreen, power, connectivity

Output: Time, other information of interest to the end users

IoT-enabled digital lock Input/Outputs

Input: Touchpad, Fingerprint scanner, Smartphone with Bluetooth

Output: Actuate door lock or unlock

PROMPT

Classify the inputs and outputs based on their mode of interaction:

- Visual - describing data carried by visible light
- Audio - describing data carried by sound
- Tactile - describing data carried by touch
- Electronic - describing data encoded in electrical signals
- Visual: Facial recognition for input
- Audio: No input/output audio
- Tactile: Touchpad, fingerprint reader
- Electronic: Wifi, bluetooth