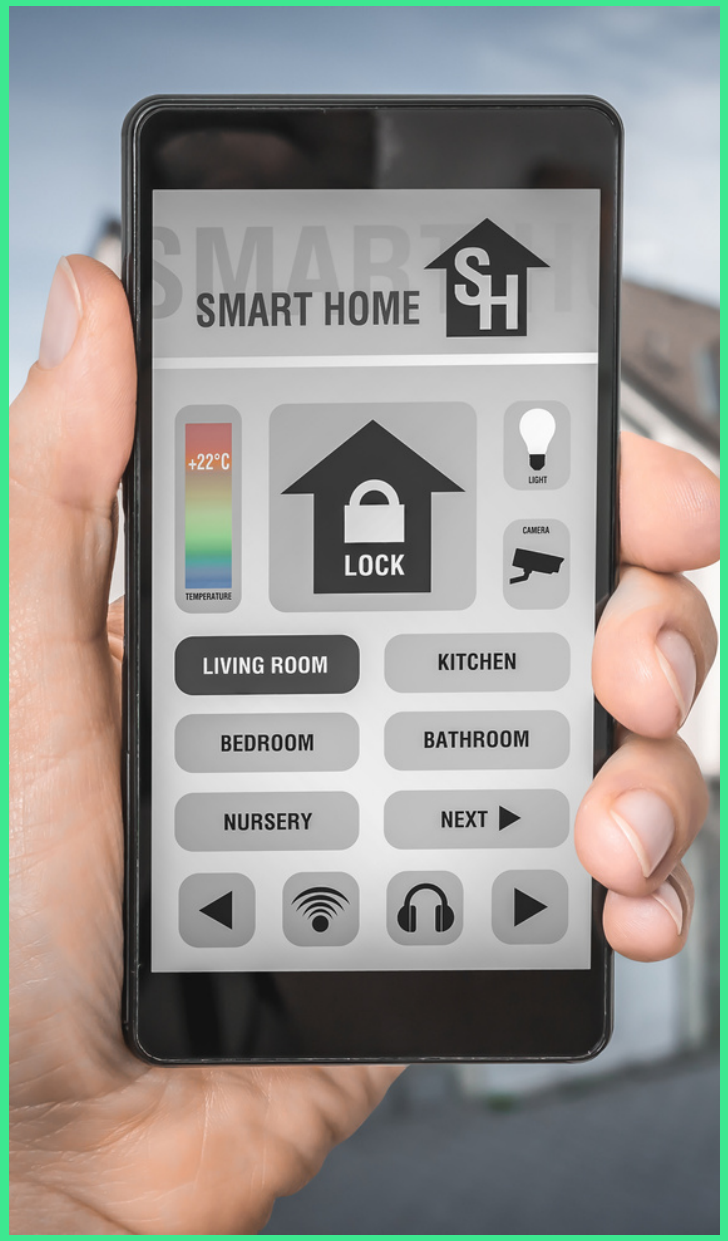
Opcoders

01

Smart Home

MicroController

02



Agenda

Disadvantages
Functionalities
Prototype
Challenges/Requirements
Clients

Our Ideas

2.

Smart Home with new features

1.

New Communication protocol

Disadvantages

Disadvantages of the current smart home

05

Hacking

Connecting all the devices through internet might lead to hacking. As smart home technologies are still on development and even the hackers are getting smarter.

Cost

Smart home don't come at a cheap price. Accessories are expensive not everyone can effort them.

Data Misuse

Company might secretly collect information about you for their efficient advertising.

Compatibility

Manufacturers of smart device are not concerned about compatibility with other device.

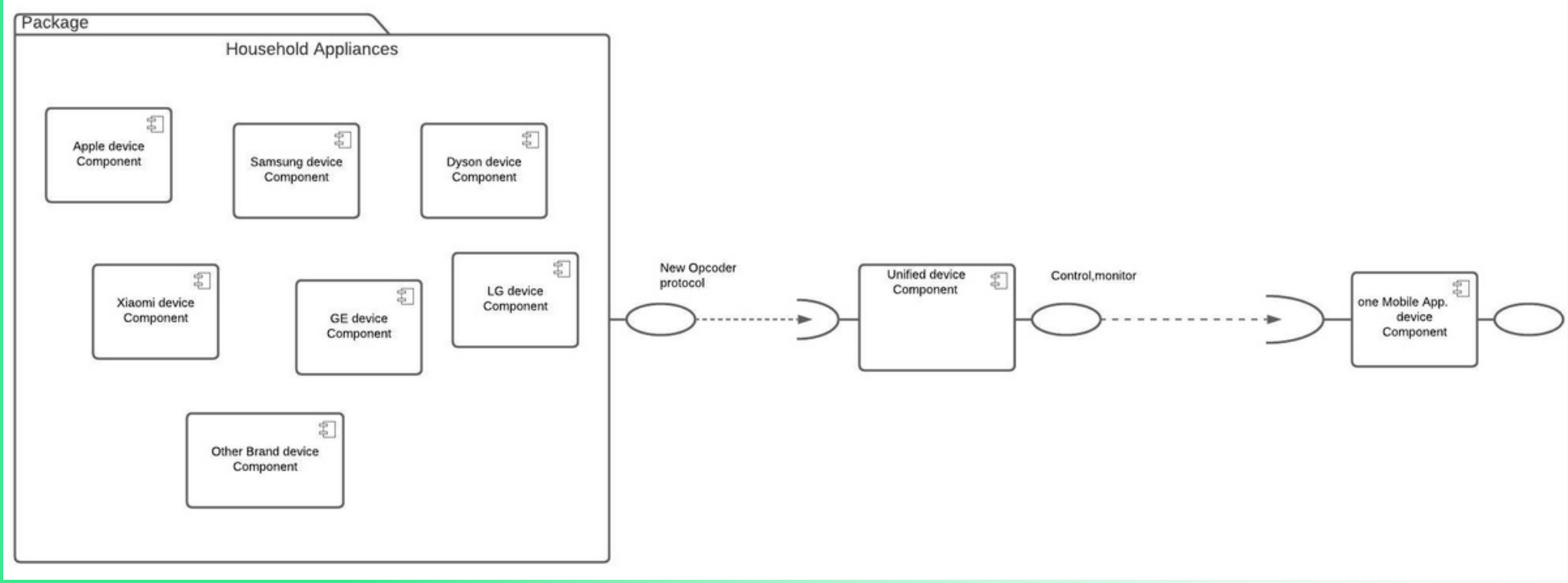
Functionalities

06

Idea 1: Challenges/Requirements/Functionalities

Advantages	Disadvantages
Wi-Fi	
- Easy for beginners - No need of controller - Many devices use this technology	- High energy usage - Network saturation - No mesh
Bluetooth	
- Available in all smartphones - No need of controller - Many brands - Low cost	- Frequency saturation - Low compatibility between brands - No mesh - Low range
ZigBee	
- High compatibility with different brands - Low cost - Many devices for may purposes - Status return	- Controller needed - Frequency saturation - Functionality errors when pairing devices from different brands.
Z-wave	
- Mesh - Reliability - High personalization - Status return - No frequency saturation	- Too expensive - Controller needed - No compatibility in other continents
EnOcean	
- Devices and sensor with no battery - Status return - No need of controller	- Low compatibility - Low devices - No mesh - Too expensive

Idea 1: Component Diagram



Idea 2: Functionalities

Smart Lock System: Enhancing the lock system by connecting to the internet, making them robust and productive. [1]

Smart Oven: Automatic detection of an amount of heating that has been applied to an object of heating such as a frozen pizza or a piece of toast [2]

Smart Vacuum Cleaner: To perform its task with no external support, the system is equipped with a radio-frequency identification (RFID) reading device and provided with an additional power source. [3]

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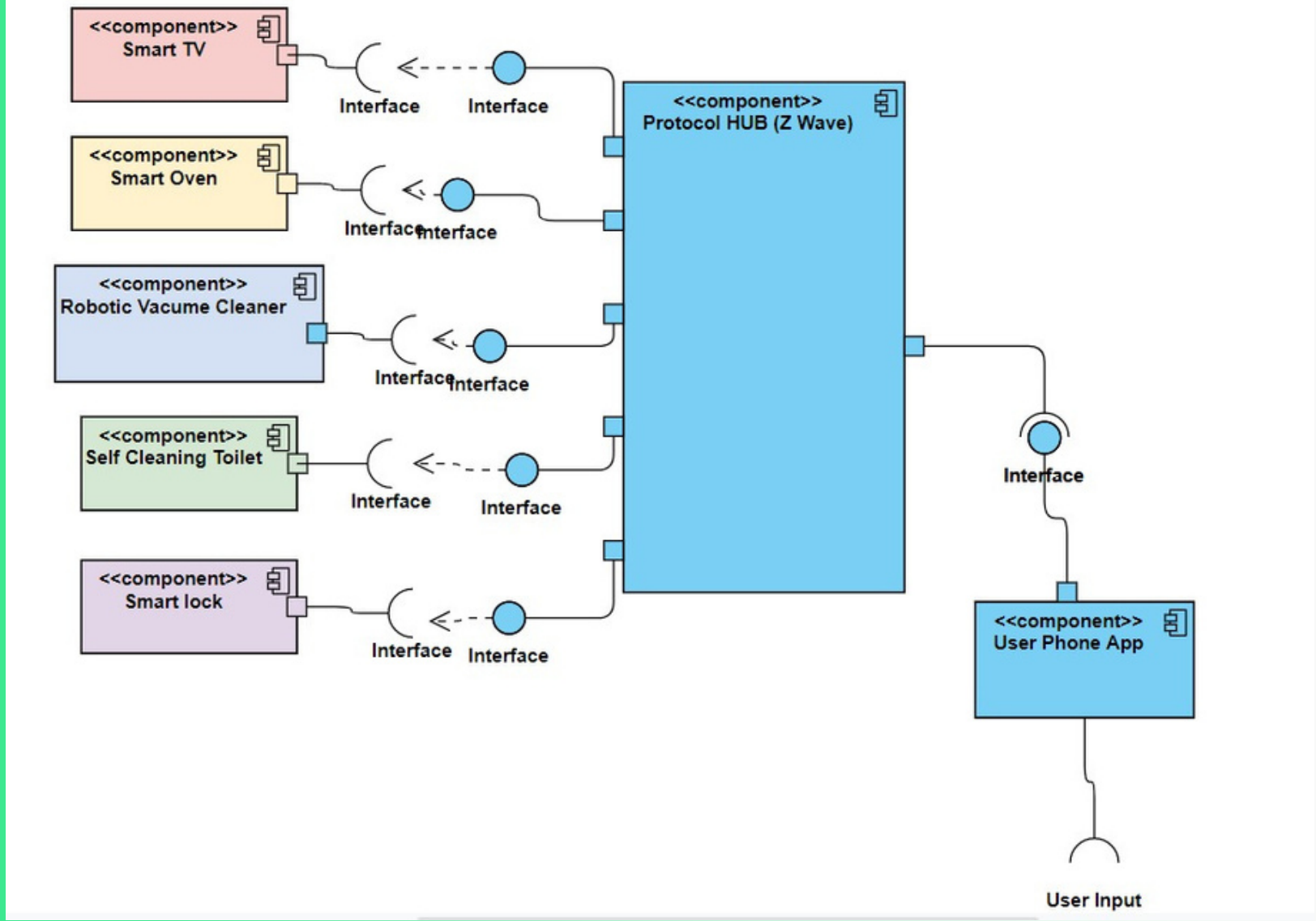
Smart Garden: The watering requirement for a plant using hydroponics growing systems can be adjusted by monitoring the soil moisture , measuring the soil moisture of a plant gives information if the plant is ideally watered , over watered , or under watered.[4]

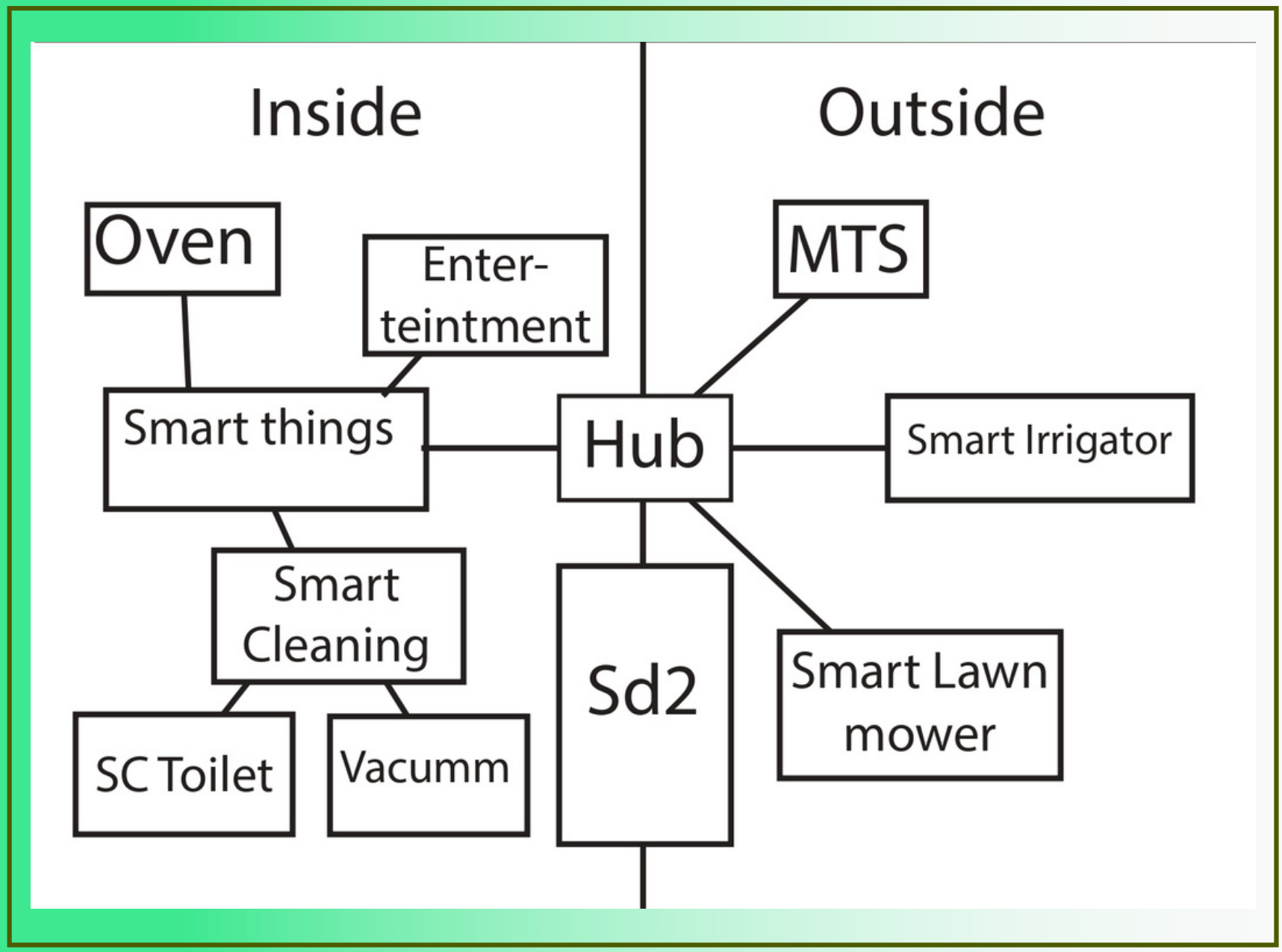
Smart Lawn Mower: Lawn Mower will be smart enough to mow the lawn on its own with an IOT (Internet of Things) to achieve interconnectivity between machines.[5]

Self Cleaning Toilet: It has a hollow rim with openings in the top surface of the rim whereby urine and other residues accumulating thereon are rinsed during flushing of the toilet. The water drains into a trough along the periphery of the. bowl and into the toilet bowl.[6]

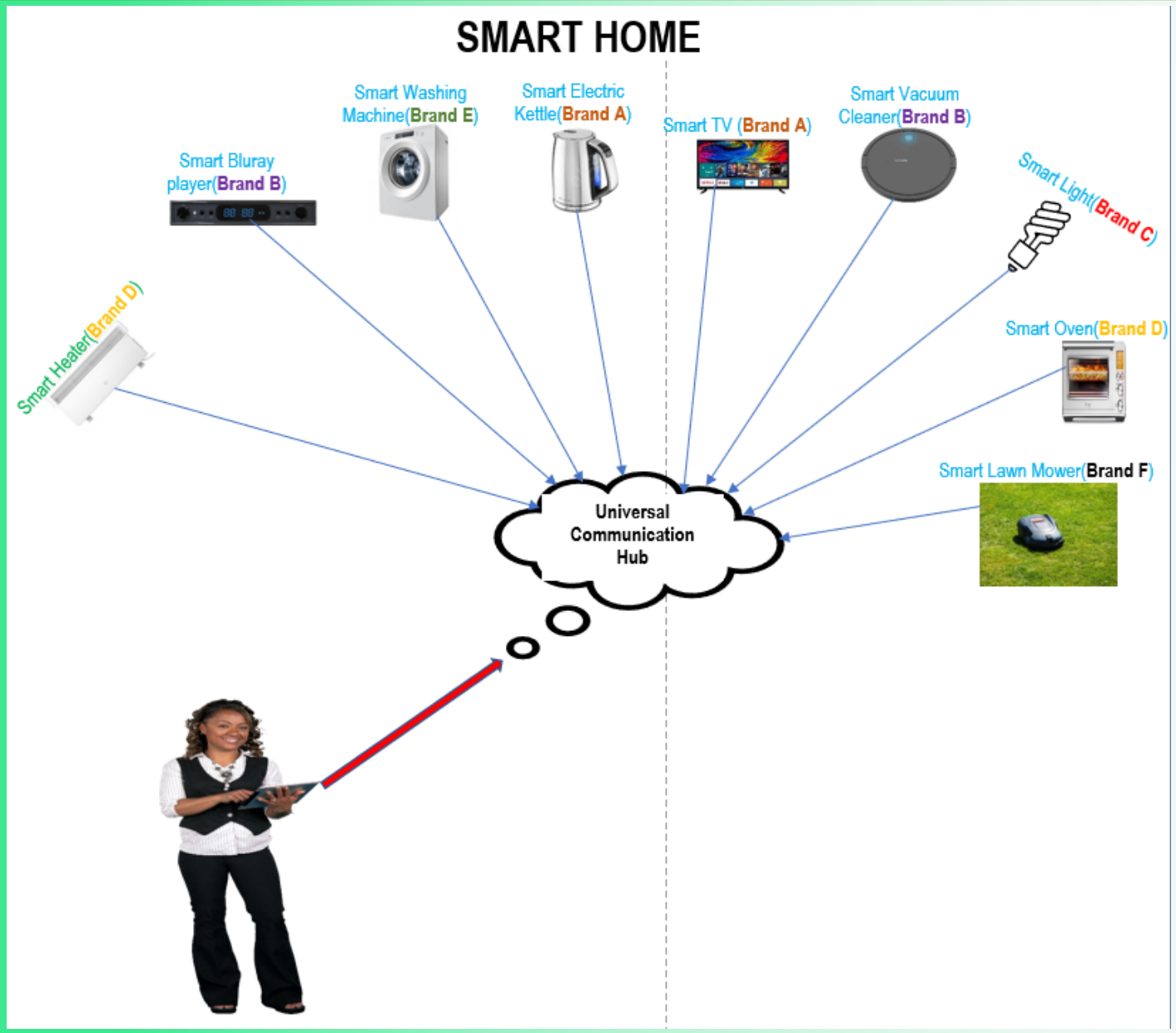
Idea 2: Component Diagram



Idea 2: Architecture



Idea 2: Prototype



Reference

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Thank you!