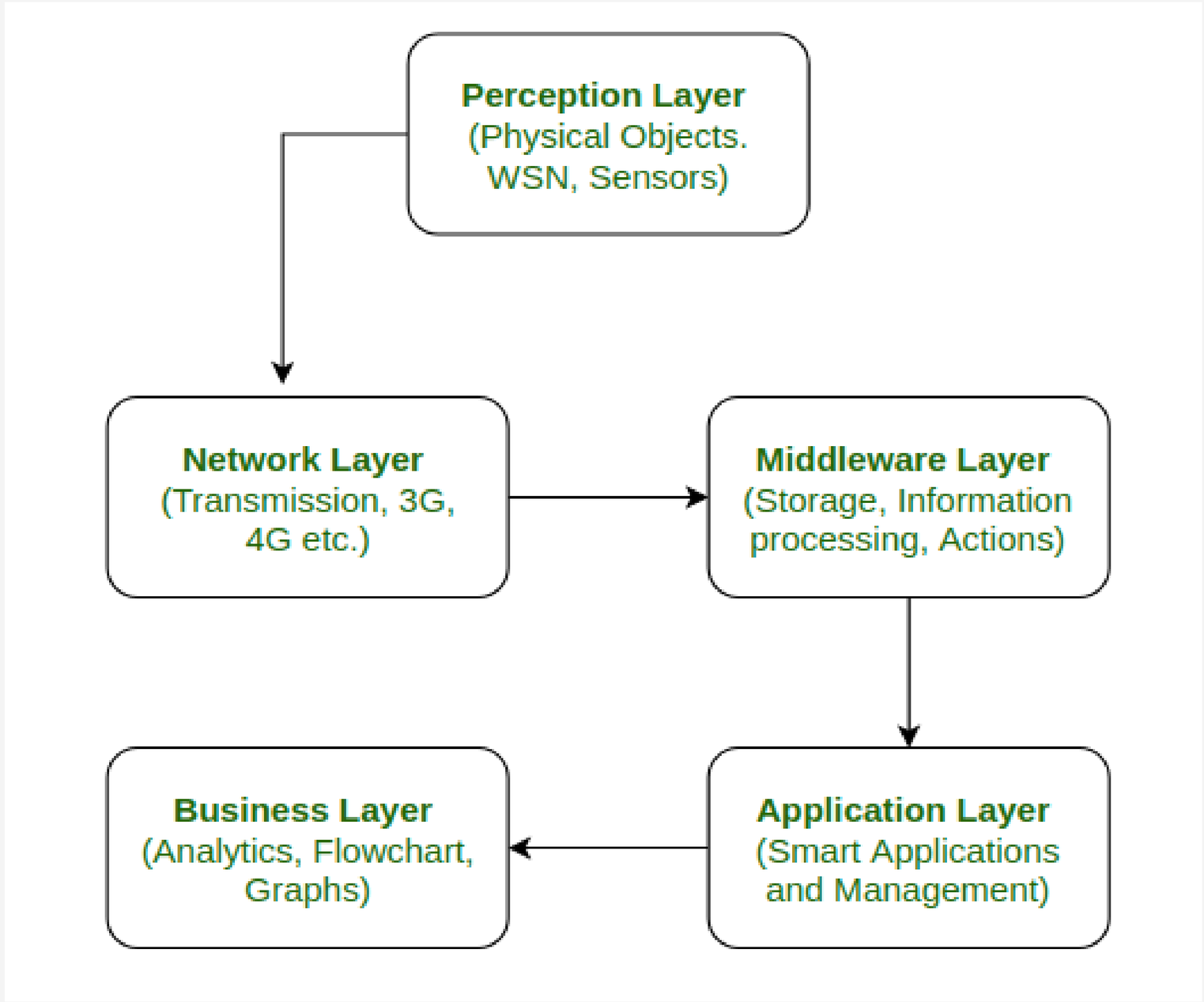
IOT Architecture Outline

Technology has a wide variety of applications and use of Internet of Things is growing so faster. depending upon different application areas of Internet of Things, it works accordingly as per it has been designed/developed. But it has not a standard defined architecture of working which is strictly followed universally.


Perception Layer
(Physical Objects.
WSN, Sensors)
Network Layer
(Transmission, 3G,
4G etc.)
Middleware Layer
(Storage, Information
processing, Actions)
Business Layer
(Analytics, Flowchart,
Graphs)
Application Layer
(Smart Applications
and Management)

1. Network Layer –

The network layer of an IoT architecture is responsible for providing communication and connectivity between devices in the IoT system. It includes protocols and technologies that enable devices to connect and communicate with each other and with the wider internet. Examples of network technologies that are commonly used in IoT include WiFi, Bluetooth, Zigbee, and cellular networks such as 4G and 5G. Additionally, the network layer may include gateways and routers that act as intermediaries between devices and the wider internet, and may also include security features such as encryption and authentication to protect against unauthorized access.

2.SensingLayer –

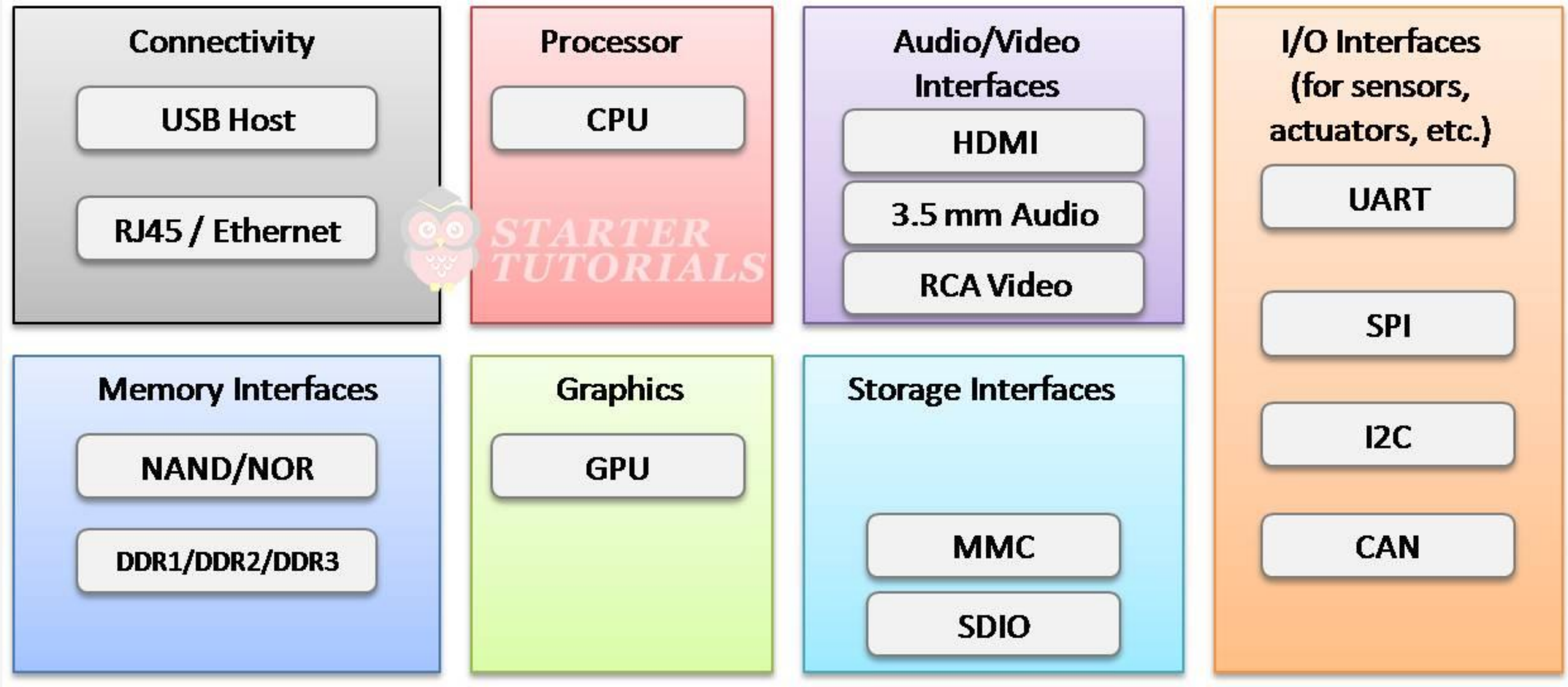
The sensing layer is the first layer of the IoT architecture and is responsible for collecting data from different sources. This layer includes sensors and actuators that are placed in the environment to gather information about temperature, humidity, light, sound, and other physical parameters. These devices are connected to the network layer through wired or wireless communication protocols.

3. Data processing Layer –

The data processing layer of IoT architecture refers to the software and hardware components that are responsible for collecting, analyzing, and interpreting data from IoT devices. This layer is responsible for receiving raw data from the devices, processing it, and making it available for further analysis or action

4.Application Layer –

The application layer of IoT architecture is the topmost layer that interacts directly with the end-user. It is responsible for providing user-friendly interfaces and functionalities that enable users to access and control IoT devices.This layer includes various software and applications such as mobile apps, web portals, and other user interfaces that are designed to interact with the underlying IoT infrastructure. It also includes middleware services that allow different IoT devices and systems to communicate and share data seamlessly


Connectivity
USB Host
RJ45 / Ethernet
Processor
CPU
Audio/Video Interfaces
HDMI
3.5 mm Audio
RCA Video
I/O Interfaces (for sensors, actuators, etc.)
UART
SPI
I2C
CAN
Memory Interfaces
NAND/NOR
DDR1/DDR2/DDR3
Graphics
GPU
Storage Interfaces
MMC
SDIO
STARTER TUTORIALS

THANK YOU