SMART NODE PROJECT

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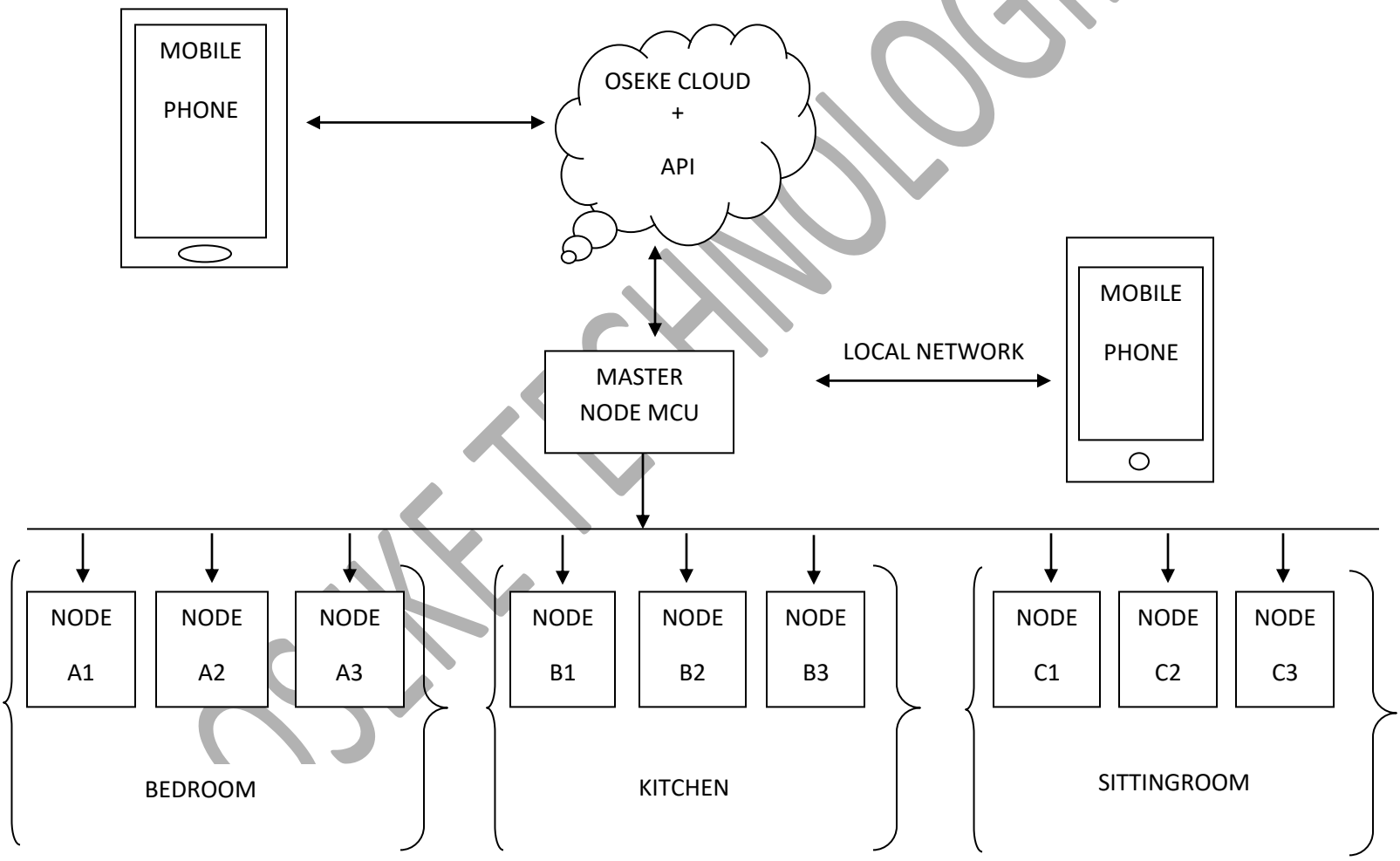
ONE-WAY COMMUNICATION:

One master node sends command/data to different nodes (fan, light, etc.). In this communication, nodes can be divided into groups such as bedroom, sitting room, kitchen, etc. where bedroom; etc. is like a container housing the nodes without having any effect on the program/software. Just for identification purpose.



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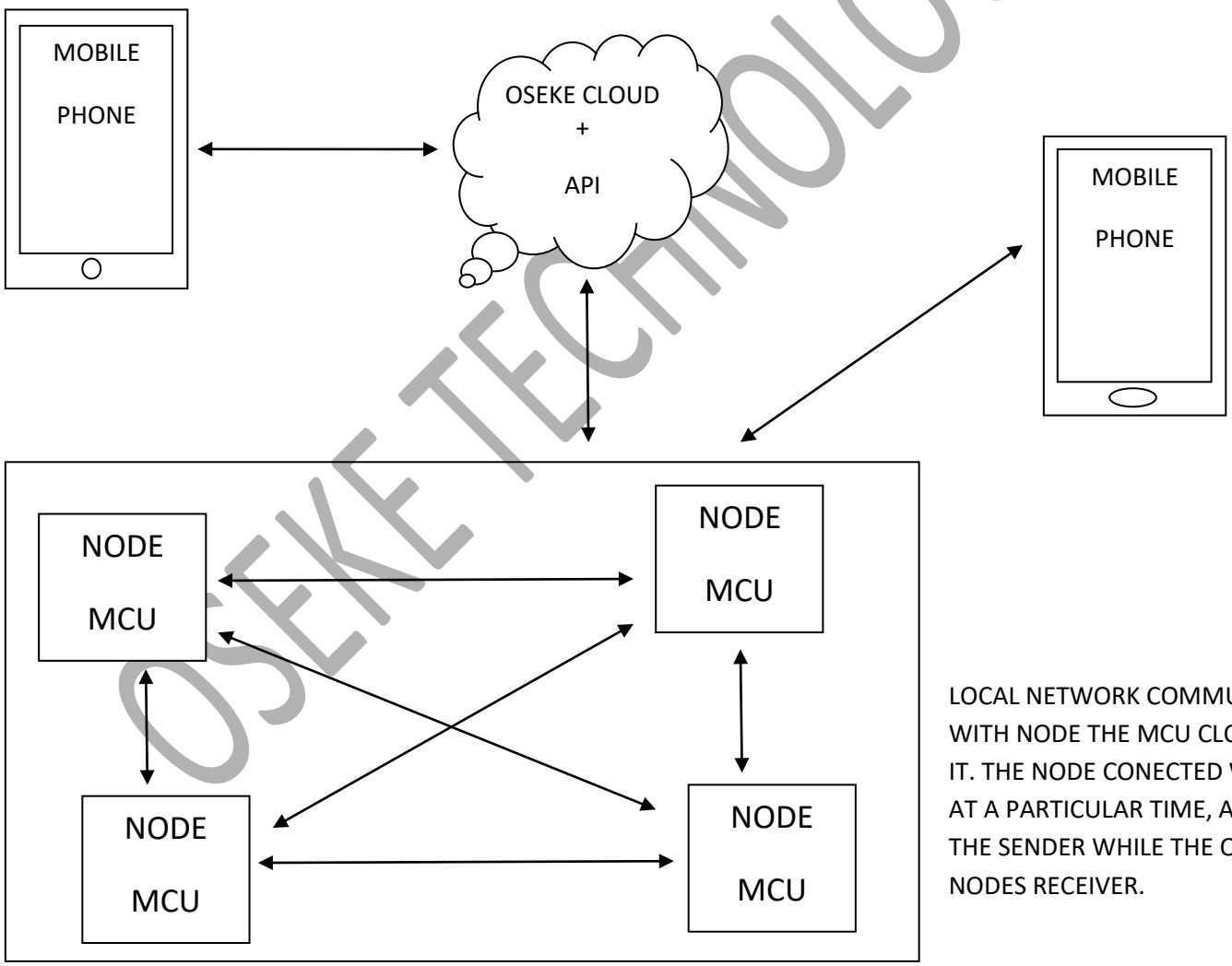
TWO WAY COMMUNICATIONS:

In this communication, each node can serve as a sender and a receiver at the same time. Multiple nodes (esp8266) are communicating with each other to make it look like a network of communication.

In this scenario, there is no master node. Each node is given the power to act as a sender and a receiver. When the local user is trying to connect to a smart plug, the closest node to his mobile is connected to his Wi-Fi network, and when he changes location, the nearest node to him is connected and acts as a sender while the others are now receiver.

The users WLAN continue to change with the nodes prior of distance (closest to users Wi-Fi) and act as a sender and receiver without the user even noticing. This eliminates the concept of a third party (master node).

One MAJOR disadvantage is a case where there is only one node, the network will be slow.



LOCAL NETWORK COMMUNICATES WITH NODE THE MCU CLOSEST TO IT. THE NODE CONECTED WITH WIFI AT A PARTICULAR TIME, ACTS AS THE SENDER WHILE THE OTHER NODES RECEIVER.

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GitHub Repo: https://github.com/EddyEjembi/IoT_ESPNow-Communication