

Figure 5: Flow Chart for handheld device (coordinator)

At the handheld device, whenever user required the readings of sensor then it activates a command using switches. Then a command packet is sent to the sensor node device and requested a sensor data packet. As soon as this sensor data packet received at coordinator, it is first converted into data and then calibrated into the SI unit of environmental parameter i.e. for temperature, SI unit is centigrade. After that MCU issues some commands to display this temperature value on LCD.

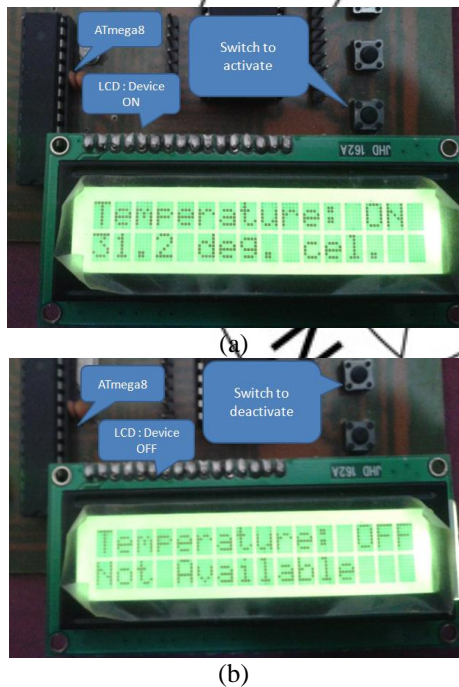


Figure 6: Handheld device (coordinator) (a) device ON, (b) device OFF.

Whenever it is required to terminate the services of sensor node device, Coordinator will issue a deactivate command. In this way, user can active and deactivate sensor node data monitoring by simply sending command packet, this improves the efficiency of the system as well as beneficiary by avoiding unnecessary monitoring of sensor at any particular instant of time. These ON/OFF commands can be directly issued using switches on handheld coordinator as shown in the Figure 6.

7. Conclusion

A low power, cost effective sensor data monitoring system is proposed in this article. Since this system is using ADC to input sensor data therefore it can be used to read any environmental parameter like temperature, humidity, light etc. Sensor node and handheld display device can be placed 90 m apart which enable user to keep him a long distance away from hazardous monitoring location as in case of chemical plants and nuclear reactors. User can activate and deactivate the sensor node as per requirement which reduces overall power consumption.

8. Future Scope

It is a low cost, low power and less space taking system to monitor sensor data. This system can be upgrade to display data of multiple sensor nodes at single handheld display device. This system can also be modified for telemetry control of devices like monitoring temperature as well as controlling cooling system by using same system model.

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