

Definition of Keyterms

Internet of Things (IoT)	DragonBoard 410c
Sensors	DC Motors
Switces	Connecting Wires

Introduction:

In this application, we are interested in designing an automation system using IoT so as to control small applications of home such as switching of AC, Fan, Pumping Motor, etc. For this purpose, we can make use of the processor depending upon the need of the application i.e. a MCU (ESP series) and even the DragonBoard can also be used.

Control Logic Development

Control Logic	if then elseif
Dominant Parameter	Appliances

Next step to develop the control logic so as to operate the appliances effectively by itself so as to provide a fully functional system

For AC & Fan

We can use the temperature of the room as the deciding parameter with the help of set points

Procedure Steps

Temperature	Set Point
Load	E-Appliances

Procedural Steps:

In this discussion, we need to elaborate the various task involved in this application using the basic concepts of the IoT i.e.

1) We have to target the load required to be controlled by this application i.e.

Operation of the Air Conditioner

Operation of Pumping Motor

Operation of Fan

Programming & Logic Development

C/C++	PLC
Dominant Parameter	E-Appliances

In this discussion, we are going to discuss about the programming tool that will be employed in this application. Here we are interested in operating the Fan, AC and Pumping Motor. So this target can be easily achieved simply by using C language with if then elseif logic

Specification Sheet

Datasheet	Information of Hardware
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We need to find the specification of these load i.e. the most dominant parameters say, current, power, etc.

Pumping Motor

Power: 2.5 KW, Current: 05 Ampere

Similarly, we can find the parameters of the other two appliances.

Implementation of the circuit

Bread Board	Connecting wires
Rail of Supply & Ground	

We will make the connection on the breadboard using all the components an devices.

For this purpose, we should make all the connection with the supply voltage, ground and other sensor input and output so as to drive the applications effectively.

Discussion of the system using IoT

Result	Performance
Simplicity	

In this concluding section, we had finally implemented a fully function system which simply operate as per the rules designed depending upon the set point of the temperature. This logic can also operate on the basis of the information read from the sensor primarily, in case of the pumping motor.