ROBAN SYSTEMS

AN HELPING HAND FOR DISABLED PEOPLE

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- # Introduction

Roban system is the way of setting up
an Economic Environment to Help The Disabled people with help of modern IOT Technology.

All human needs can be fulfilled using Roban System

we use C++, modern IOT architecture and MQTT protocols to full fill the Roban System

it is more Economical than human labour

2.Formulation Of Objectives

A suitable companion for disabled people

Help disabled people to fullfill their Needs

Daily life applications

Wide range of application,applicable to every physical needs

Economic

Very cheper than human labour.

Large scale compactibility

Can be connect infinite nodes and large scale application

Easy to maintain

Module wise architecture

2.Project planning

Phase 1

Selecting topic,Conveying Idea,

Phase 2

First review,literature Survey

Phase 3

Making schematic,coding ,Implimentation

Phase 4

Documentation,Testing,Prototype, Presentation

3.Task Identification And Allocation

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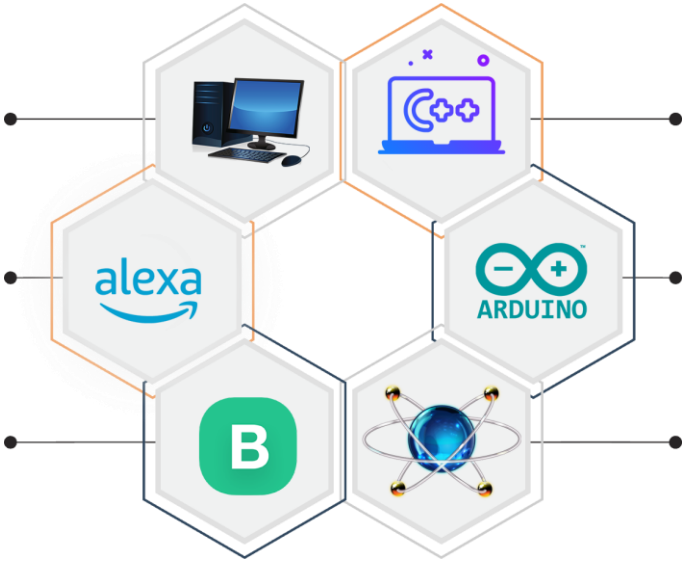
Overall h/w Overall connecting the modules and hardwares	**Fullfill needs** Fullfilling the basic needs. Providing support to patients.	**Security** Security and surveillance to the patient and surrounding.	**Voice control** Controling all phyical objects using commands and guesters.

3.Requirments

Pc system
Windows 7+,4 gb of Ram

Alexa
Amazon echodot speaker

Blynk iot
Blynk iot web server iot app



C++
C++ language is used for code

Arduino ide
To flash hende MCU and micro controllers

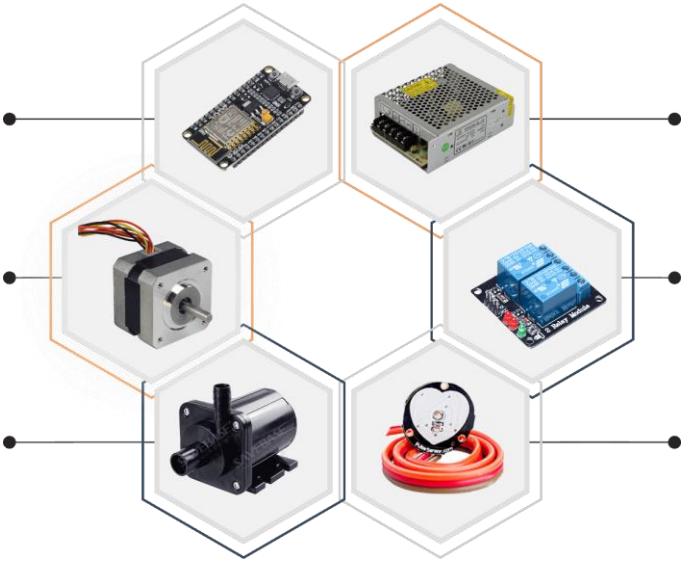
Proteus
Circuit designing and testing

3.Requirments

Node MCU
Micro controller bord with wifi

Stepper motor
Used to lift and slide things

Pump/valve
To controll liquid or air flow



S M P S

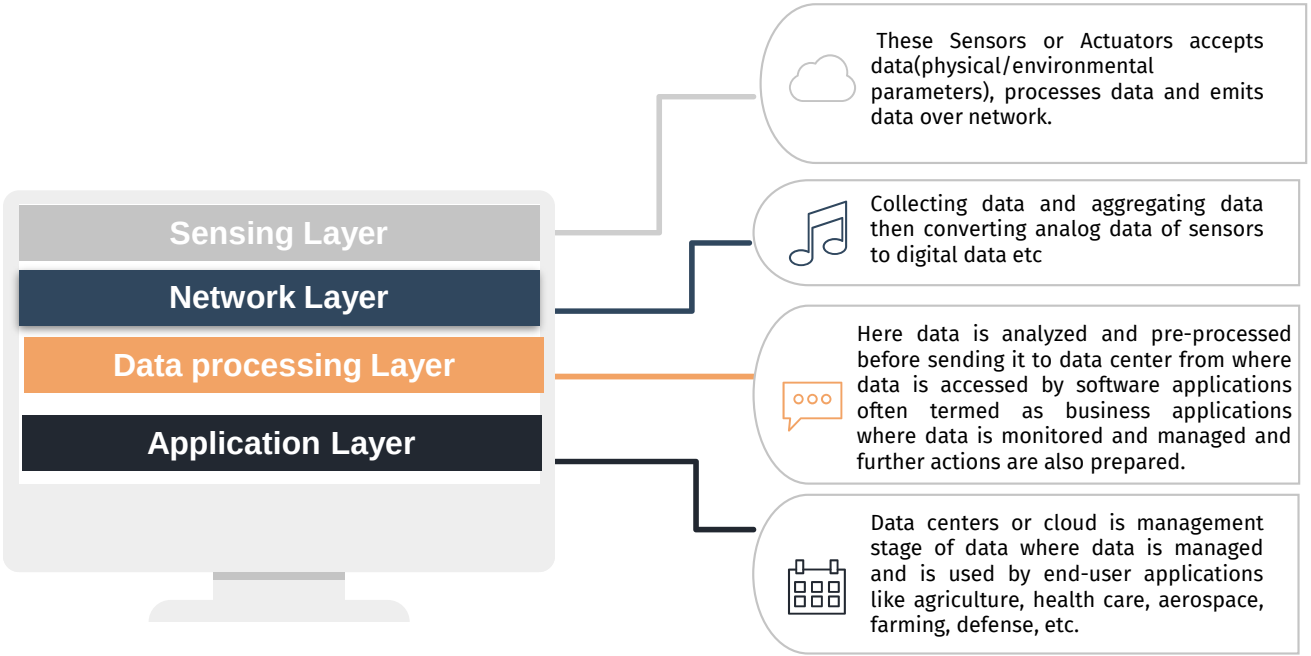
The power supply

Relay module
Used to trigger current flow

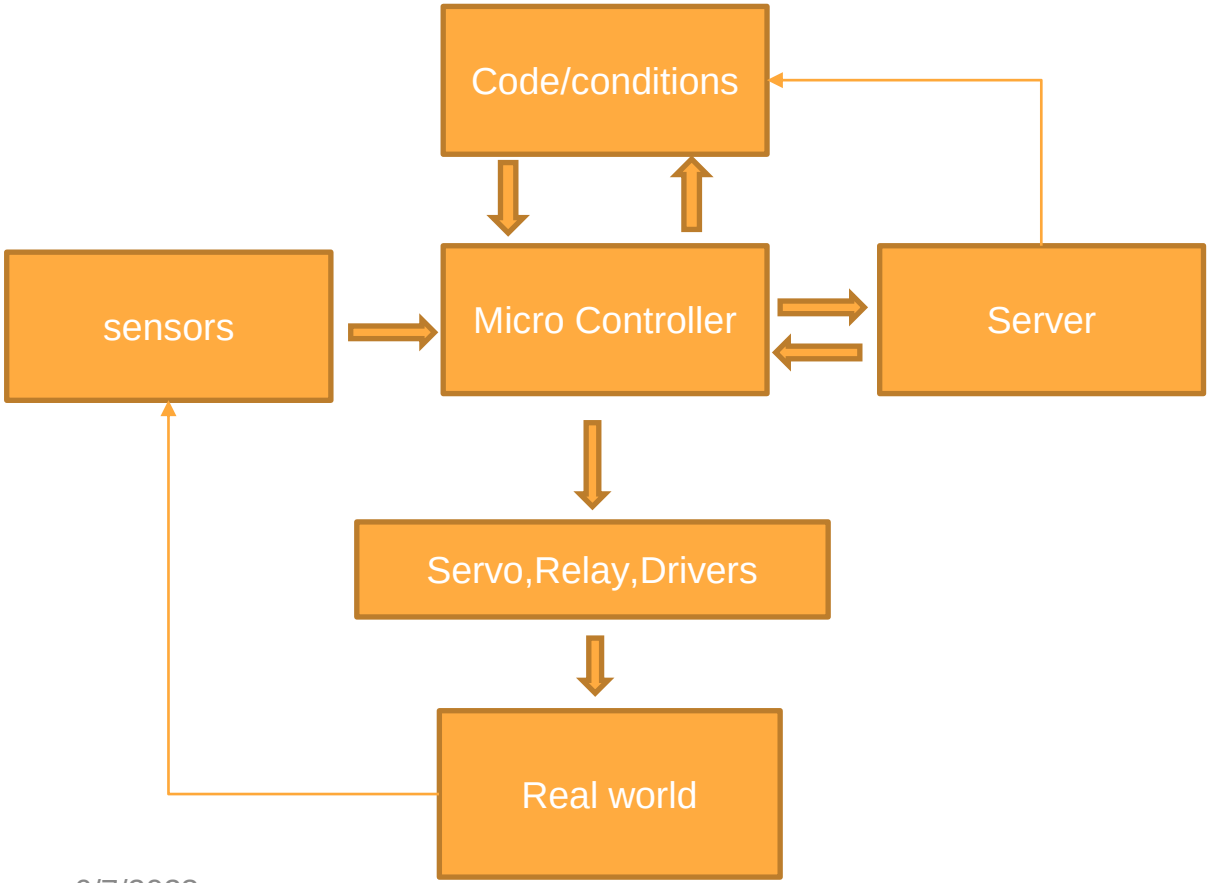
Sensors

Used to input the data

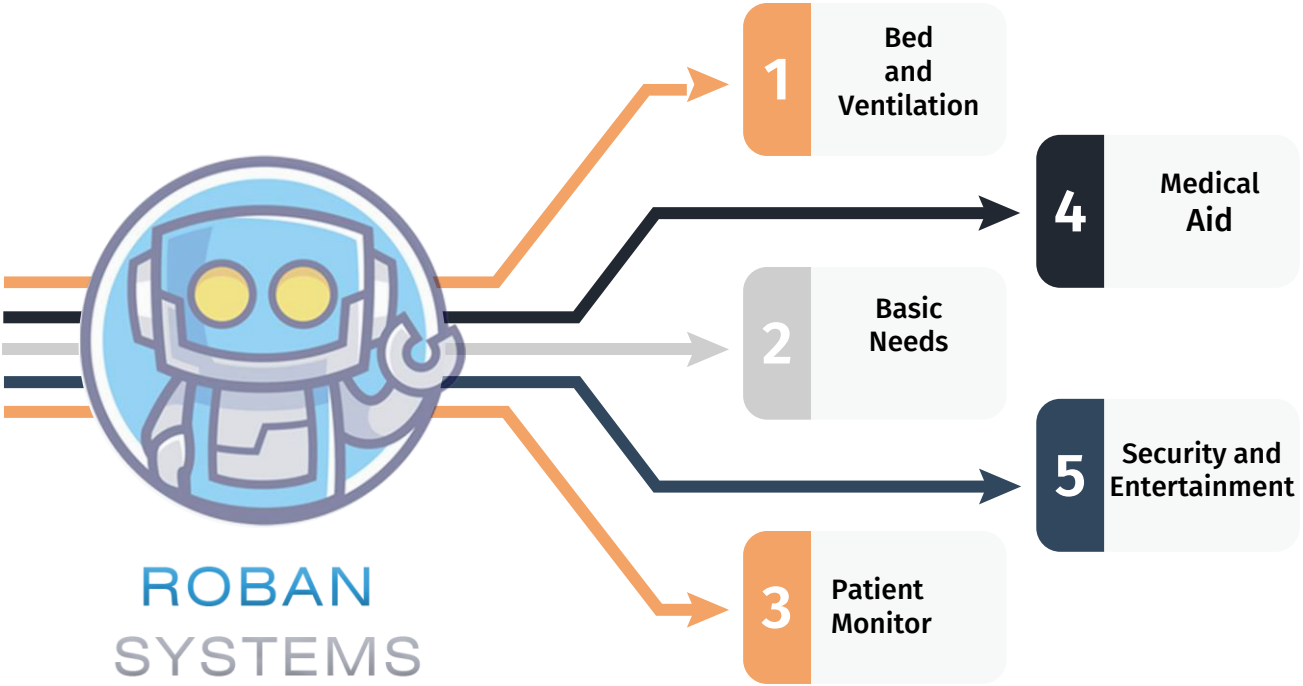
4.Architecture of Internet of Things (IoT)



Formulation of Design

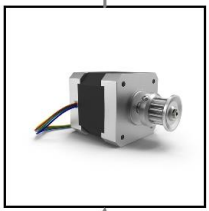


4.Modules

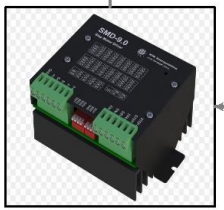

1
Bed and Ventilation
2
Basic Needs
3
Patient Monitor
4
Medical Aid
5
Security and Entertainment
ROBAN
SYSTEMS

1.Bed And Ventilation Module Schematic

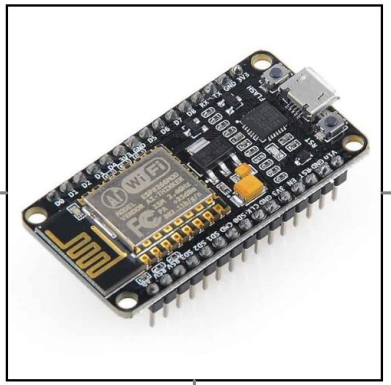
HYDROLIC SYSTEM



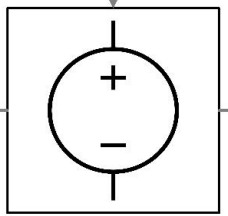
STEPPER MOTOR



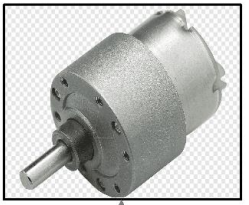
STEPPER DRIVER



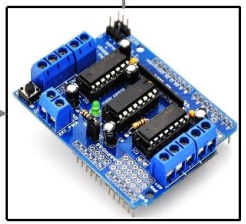
NODE MCU 8266



DC SUPPLY

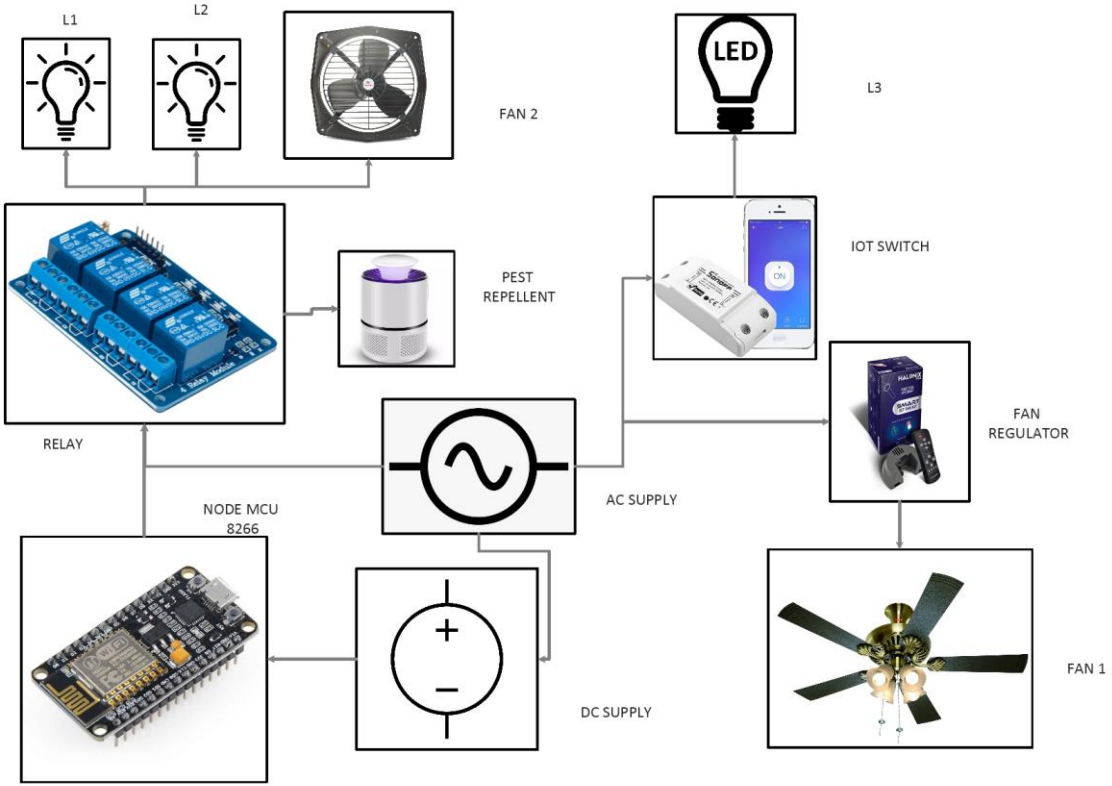


GEAR MOTOR

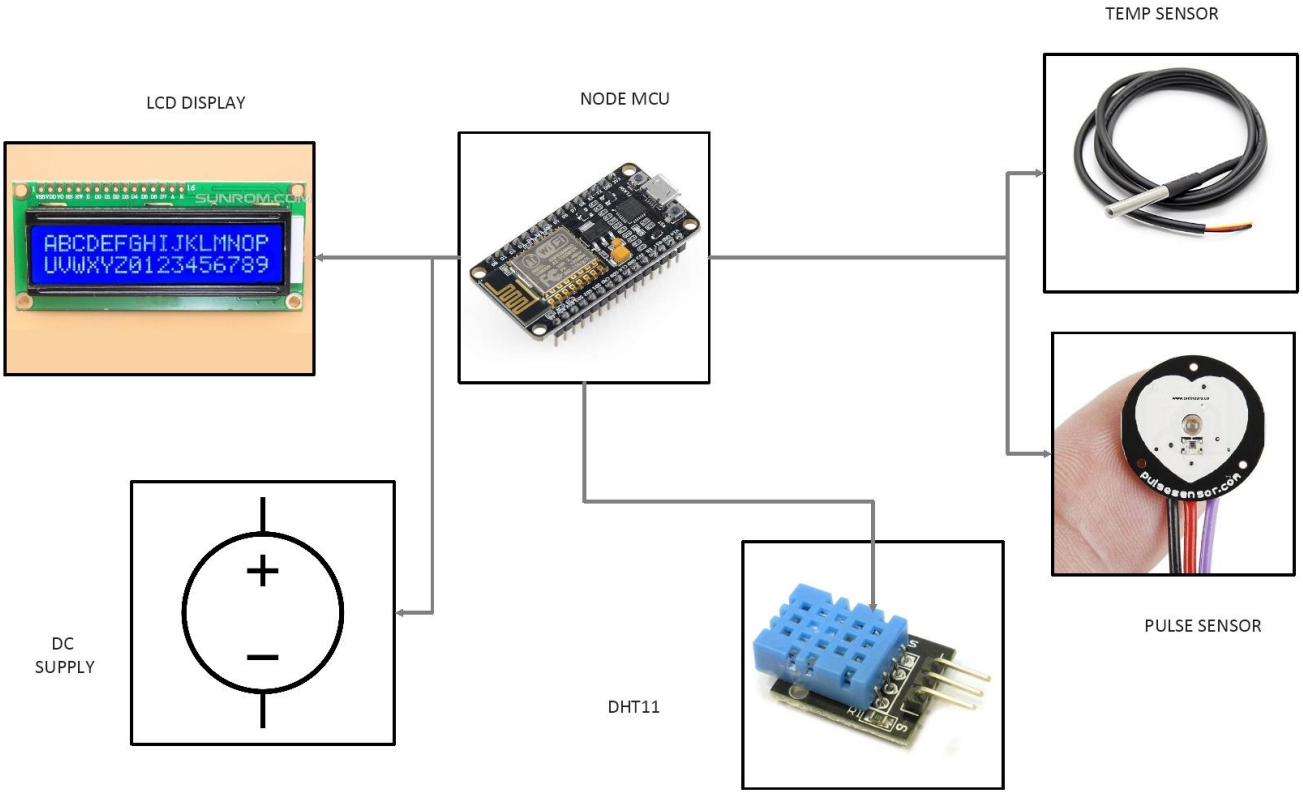


MOTOR DRIVER

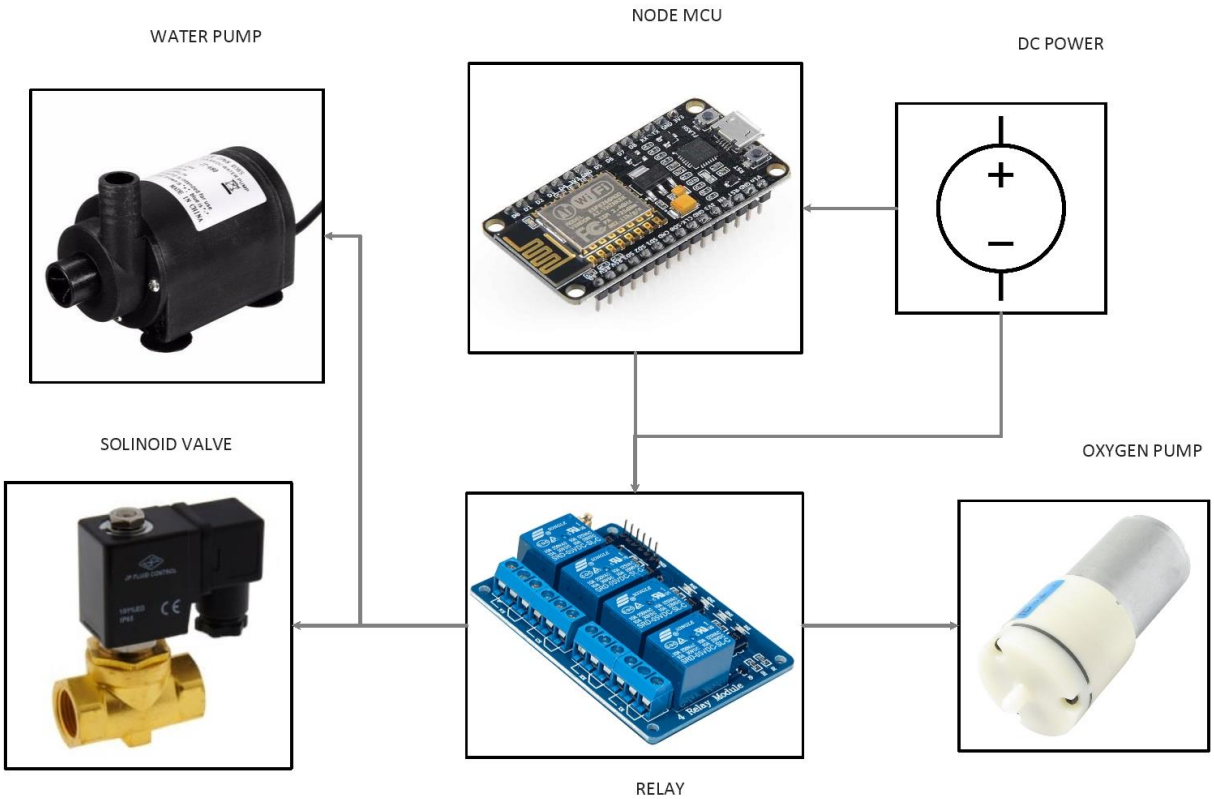
2.Basic Needs



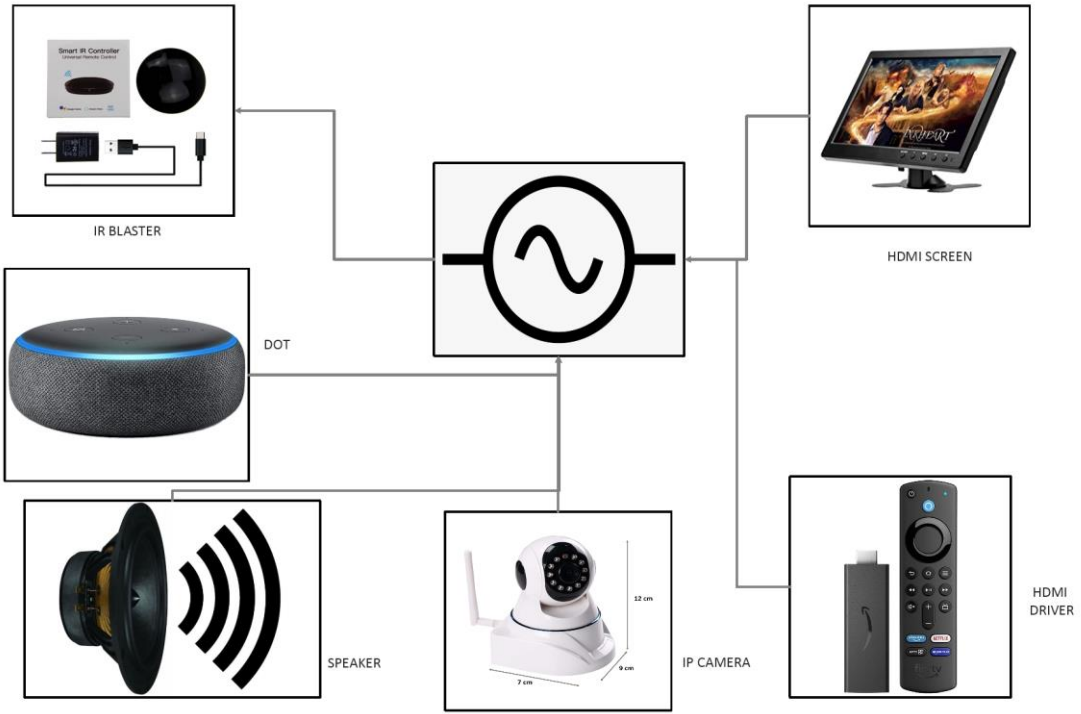
3.Patient Monitor Module



4.Medical Aid Module Schematic

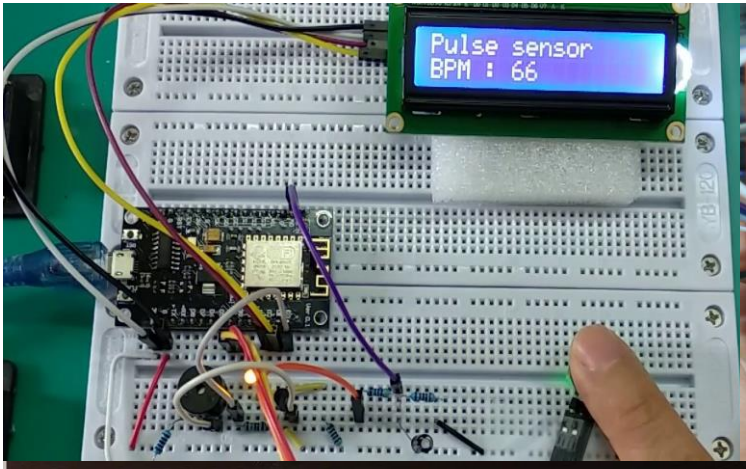


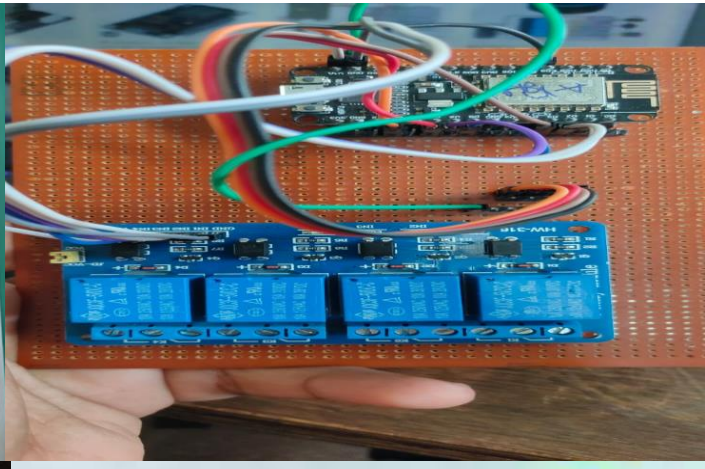
5.Security and Monitoring

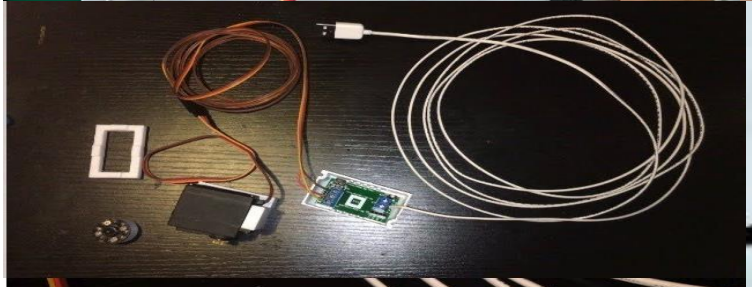


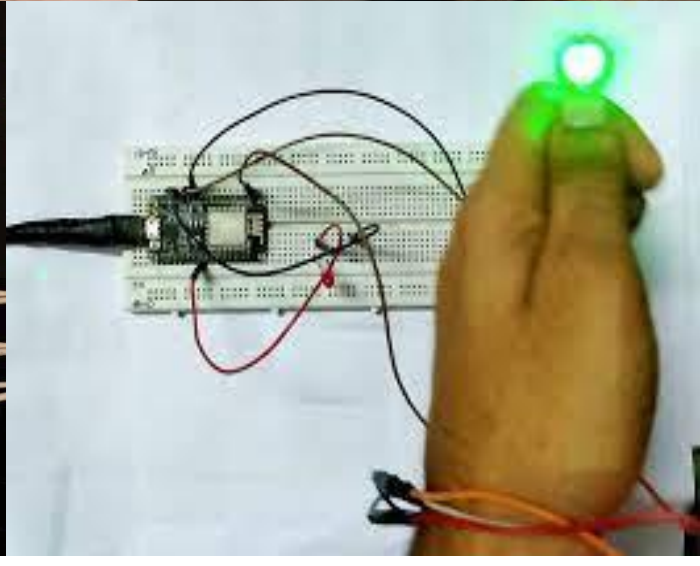
Project progress

- Completed around 90% of the project
- Implemented five modules (bed and ventilation , basic needs, patient monitor module, medical aid module, security and monitoring)
- Connected the modules with IOT environment
- Activated voice assistance with iot devices
- Caliberated sensors according to environment


Pulse sensor
BPM : 66







Reference

- Git hub
- Stack overflow
- Knibus
- Aurdino community

Thank you !
Any questions ?