IOT COVID PATIENT HEALTH MONITOR IN QUARINTINE

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ABSTRACT

In times of COVID we have special Covid 19 Quarantine centres setup in order to treat covid patients. Since covid is highly infectious it is very important to quarantine covid patients but at the same time doctors need to monitor health of covid patients too. With the increasing number of cases, it is becoming difficult to keep a track on the health conditions of many quarantined patients.

The problems here are:

- Doctors need to regularly monitor patient health.
- There is increasing number of patients for the doctors to monitor.
- The doctors are at risk of infection just for monitoring purpose.

To solve this issue, we here design a remote IOT based health monitor system that allows for remotely monitoring of multiple covid patients over the internet. The system monitors patient heartbeat, temperature and blood pressure using a heartbeat sensor, temperature sensor respectively.

The system then transmits this data over the internet using wi-fi transmission by connecting to Wi- Fi internet connection. The data is transmitted and received over IOT-by-IOT Gecko platform to display data of patient remotely. The entire system is run by a microcontroller-based circuitry. If any anomaly is detected in patient health pr if the patient presses the emergency help button onIOT device, an alert is sent over IOT remotely.

This System allows:

- Doctors to monitor patients remotely without risk of infection
- A single doctor over 500 patients at a time.
- Doctor gets instant alert in case of health fluctuations of emergency.

The system is mounted at patient bedside and constantly transmits patient health data over the internet so that doctors can monitor multiple patients remotely and attend the desired patient urgently when needed.

Keywords: IOT device

1.1 INTRODUCTION:

It is a microcontroller board based on 8-bit ATmega328P microcontroller. Along with

ATmega328P, it consists other components such as crystal oscillator, serial communication, voltage regulator, etc. to support the microcontroller. Arduino Uno has 14 digital input/output pins (out of which 6 can be used as PWM outputs), 6 analog input pins, a USB connection, A Power barrel jack, an ICSP header and a reset button.

The ATmega8 microcontroller contains 32 general purpose working registers. As shown in the below figure these registers are directly connected to ALU. Two registers can carry one single instruction consequently in one clock cycle. Arduino boards are able to read analog or digital input signals from different sensors and turnit into an output such as activating a motor, turning LED on/off, connect to the cloud and many other actions. You can control your board functions by sending a set of instructions to the microcontroller on the board via Arduino IDE (referred to as uploading software). Unlike most previous programmable circuit boards, Arduino does not need an extra piece of hardware (called a programmer) in order to load a new code onto the board. You can simply use a USB cable. Additionally, the Arduino IDE uses a simplified version of C++, making it easier to learn to program. Finally, Arduino provides a standard form factor that breaks the functions of the micro-controller into a more accessible package.

2. IMPLEMENTATION STAGES

Stepwise implementation of IOT covid patient health monitor system is given under:

Step 1: Switch on the kit by giving power supply.

Step 2: Keep the ssid: project, password: project1235 in mobile and turn on HotspotStep 3: Kit gets connected to Hotspot using Wi-Fi module.

Step 4: The temperature and heartbeat of patient is measured using LM35 and heartbeatsensors.

Step 5: Based on conditions given in code i.e., hbval> 78 and 10< hbval < 50, td > .Sensor sensesand updates to sever according to conditions.

Step 6: “Thingspeak” is the server where the results are updated.

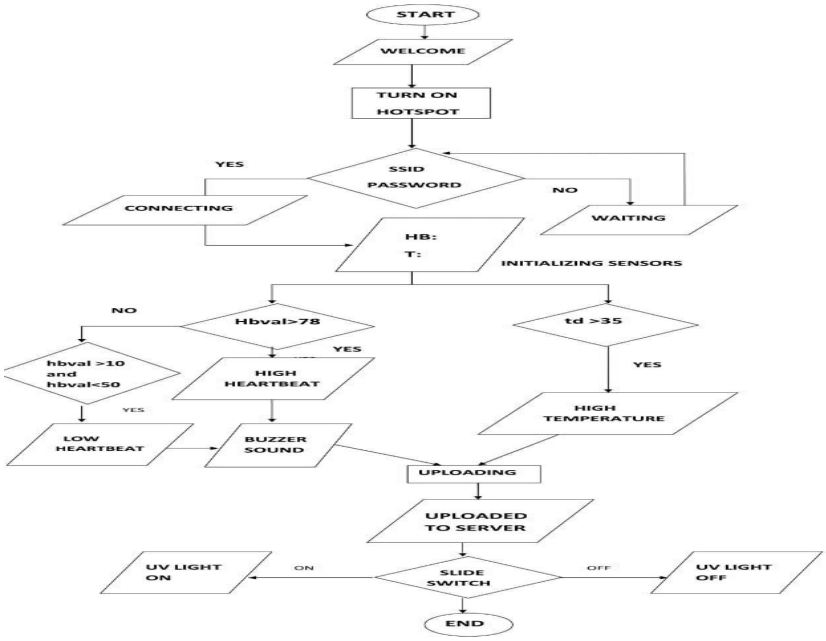

Fig: Flow chart of iot covid patient health monitor in quarintine

3.CONCLUSION

The report explains the design of an Elevator Controller proposed using Verilog HDL and is verified by using SimVision tool. The tool helps to identify whether the design works properly or not. Verilog HDL was given primary importance in designing this project due to its vast range of advantages compared to traditional schematic-based design. The language is analogous to computer programming languages which also includes textual description with comments. Verilog HDL is rich in libraries provided by fabrication vendors for post logic simulation with powerful programming language interface. As day to day the technology is gradually improving. So obviously the designs have to be made simpler for enjoying the benefits. The RTL is verified and implemented. According to the FSM technology the elevator process can be defined with the help of different states. In the FSM technology there is a change from one state to another state likewise in the elevator there will be a change from one floor to another. Every possible way is assigned a path and the implemented based on FSM concept to write the program code for elevator controller.The whole program is designed in such a way that there are desirable switches in each floor and also inside the elevator to control the user commands.

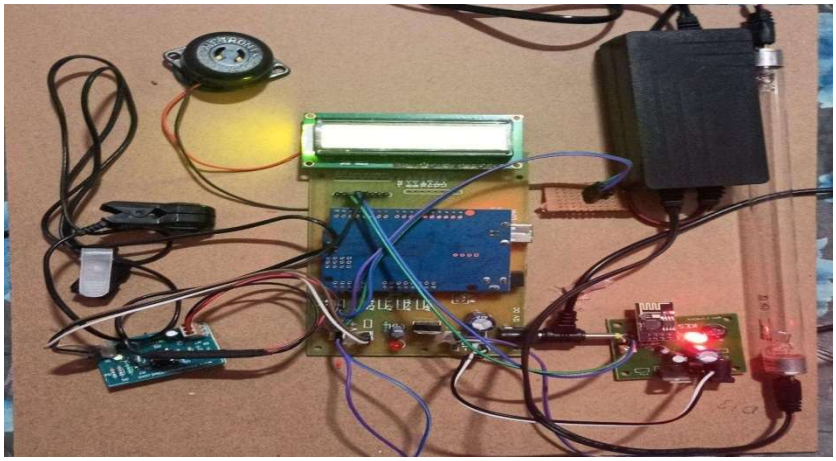

Fig 3.1 Overall system

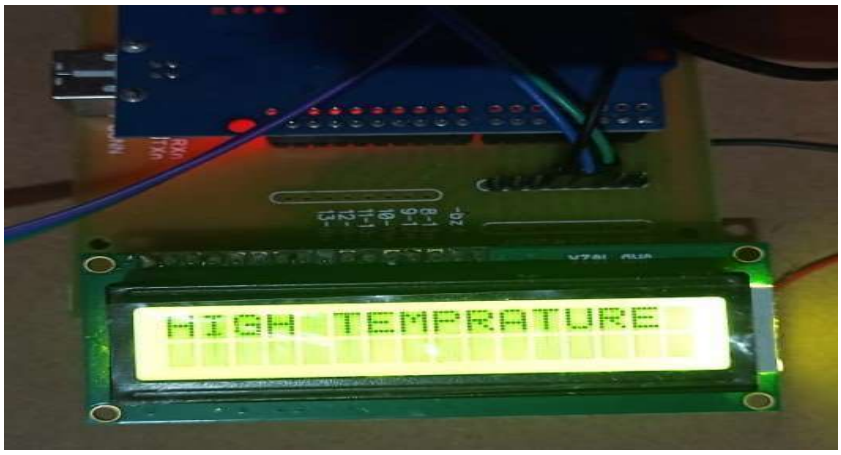

Fig 3.2 Displayed on LCD as HIGH TEMPERATURE (td>35)

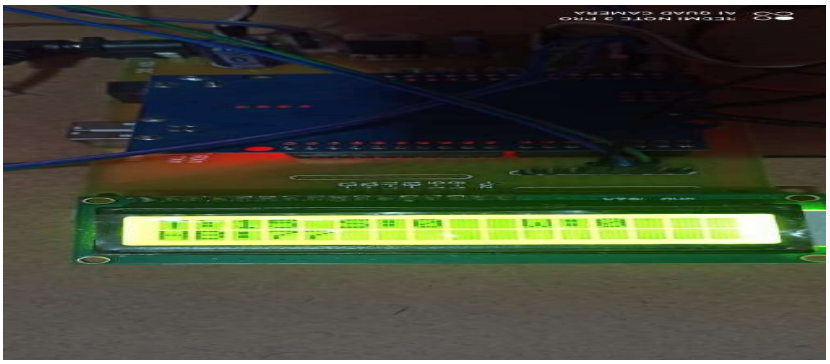

Fig 3.3 Displays Commands in LCD

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