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HEALTH MONITERING SYSTEM USING ALERT MESSAGES

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ABSTRACT

Healthcare is given extreme significance now a- days by each country with the arrival of the new nimbus contagion. So, in this aspect, an IoT grounded health monitoring system is the stylish result for such an epidemic. Internet of effects (IoT) is the new revolution of internet which is the growing exploration area especially in the health care. With the increase in use of wearable detectors and the smart phones, these remote health care monitoring has evolved in such a pace. IoT monitoring of health helps in precluding the spread of complaint as well as to get a proper opinion of the state of health, indeed if the croaker is at far distance. In this design, a movable physiological checking frame is displayed, which can constantly screen the case's twinkle, temperature and other introductory parameters of the room. We proposed a continuous checking and control instrument to screen the patient condition and store the patient information's in garçon exercising Wi-Fi Module grounded remote correspondence. A remote health monitoring system using IoT is proposed where the authorized particular can pierce these data stored using any IoT platform and grounded on these values entered, the conditions are diagnosed by the croakers from a distance.

KEYWORDS: Node MCU, Piezo-Buzzer, Lcd, ARP voice module

INTRODUCTION

An extension of a hospital's medical infrastructure, a remote health monitoring device allows for the remote monitoring of a patient's vital bodily functions. In the past, only hospitals were home to the detection systems, which were distinguished by their enormous size, intricate electronics and high power requirements. The development of sensors and microcontrollers that are smaller in size, operate more quickly, use less power, and are less expensive is the result of ongoing advancements in the chip technology sector. The ability to remotely monitor patients' vital signs, particularly those who are elderly, has advanced further in recent years. In the following situations, the remote health tracking system can be used:

1. A patient has a medical situation for which the regulatory body system is known to be unstable. When a patient is being given a new medication, this happens.

2. The patient has a history of or is predisposed to cardiac attacks. The vitals can be watched in order to foresee potential health issues and warn the patient beforehand.

Situation involving a vital bodily organ 3.

4. An event or circumstance that increases the chance of developing a condition that could be fatal. The target audience for this is older individuals who may also have deteriorating health problems.

5. Sportspeople in motion.

To be aware of the training plans that will yield the best outcomes. Recently, a number of systems have been developed to deal with the problem of remote health monitoring. The systems' wireless detection technology transmits sensor data wirelessly to a distant server. Some even adopted a service approach where customers must pay a monthly fee. This presents a challenge in developing nations where some individuals cannot afford to use them. The issue of internet connectivity is another one, as some systems need excellent internet to maintain a real-time remote connection in order to function. In developing nations, there is still an issue with internet penetration. Many of the methods were first implemented in industrialised nations where the infrastructure is in excellent condition. The majority of the time, the methods are modified to function in developing nations. It is necessary to approach remote detection from scratch in order to accommodate the fundamentally minimal conditions currently prevalent in developing nations in order to reduce some of these issues. By counting the number of parameters a system can identify, a simple patient monitoring system design can be determined. In some cases, it is possible to compute multiple readings by detecting a single parameter. Considerations for parameter discovery are simple as follows: i) A single-parameter monitoring device In this case, only one measure is being watched, like the electrocardiogram (ECG) reading. Various readings can be obtained from the ECG or heartbeat detection based on the algorithm used. The oxygen saturation and heart rate can be determined from an ECG measurement. ii) Multi-parameter tracking system: This system simultaneously monitors a number of parameters. A High Dependency Unit (HDU), an Intensive Care Unit (ICU), a hospital operating room, or a post-surgery recovery unit in a hospital are a few places where such a

structure is used as an illustration. Blood pressure, respiration rate, and the ECG are a few of the factors that are tracked. A patient's survival or recovery is essentially demonstrated by the Multiparameter Monitoring System. The majority of the elderly age group relocates to rural areas in developing nations as soon as they leave their everyday work routine. They might relocate to group homes for assisted living in industrialised nations. This is the situation where a remote health monitoring device can be useful.

A ventilator is available in India for every 93,273 individuals on average, or a total of 1,769 ventilators. In hospitals during the COVID-19 disaster, the dearth of ventilators is the most serious shortage. They can maintain people breathing even when they are no longer able to do so on their own. These devices can cost around $30,000. One method to help patients in Bangladesh with pneumonia brought on by the COVID-19 virus is to create a portable ventilator that is affordable. By compressing a typical Bag Valve Mask (BVM) or Ambu bag using a pivoting motor drive system, the suggested low-cost ventilator runs without the need for a human operator. The device ought to support intrusive and non-invasive features, support tidal volumes of 500–600 mL, and be capable of operating continuously for several days, among other features. A patient with pneumonia can receive the necessary quantity of tidal volume at 12 Respiratory Rate (RR)/min, according to calculations. The automatic arm actuated BVM compression strategy has been shown to be a workable approach for developing affordable, low-power, and portable ventilator technology that offers important ventilator features at a fraction of the cost of competing models. The arm movement is needed to maintain an automatic air flow with a controlled pressure rate, and an IoT-based motor drive that rotates both clockwise and anticlockwise will supply this motion.

Only pneumonia cases where a mechanical ventilator can produce a plate pressure (plat) for the lungs are treated with this form of the continuous ventilation device. The system should, among other things, support a 500 mL tidal volume, be invasive and non-invasive, and have the ability to operate continuously. The pneumonia patient can receive the necessary quantity of tidal volume at 12 Respiratory Rate (RR)/min, according to calculations

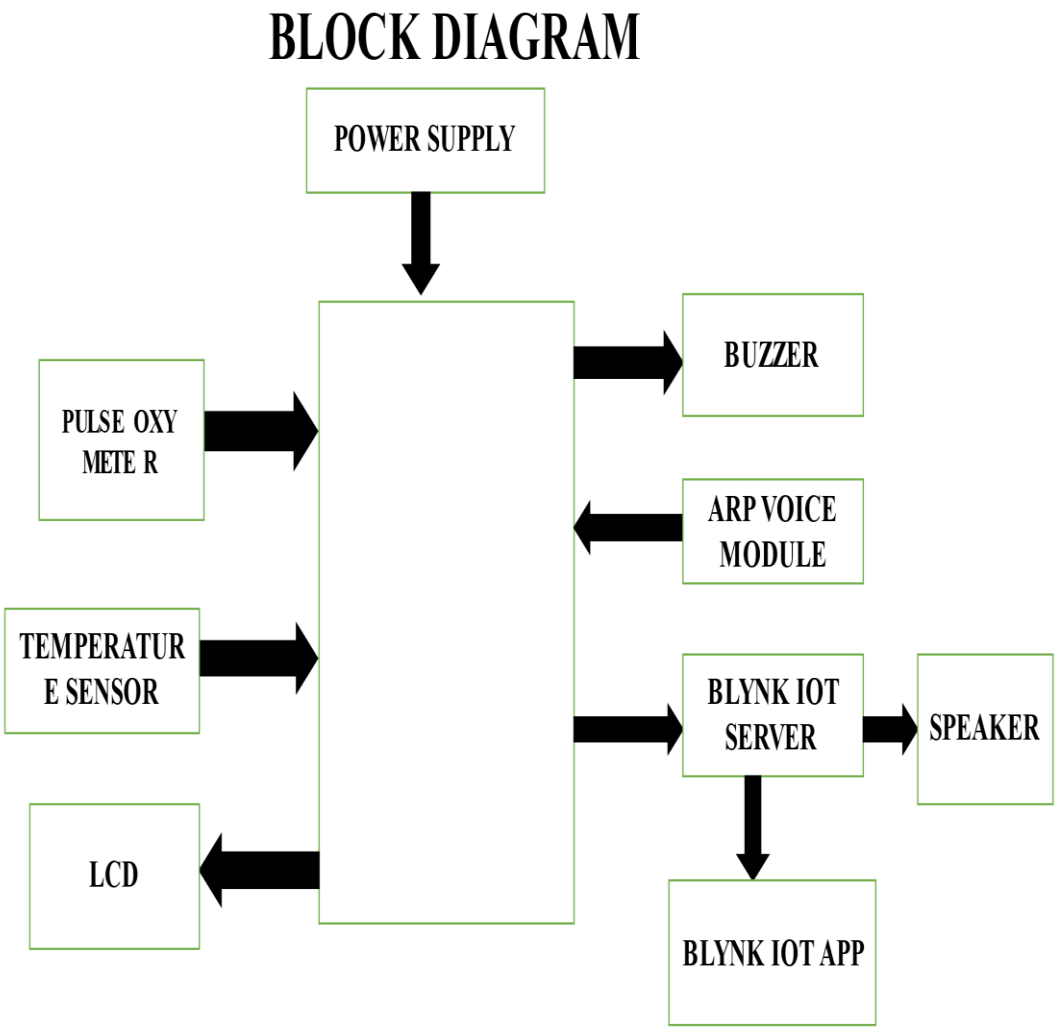


Fig.1 block diagram

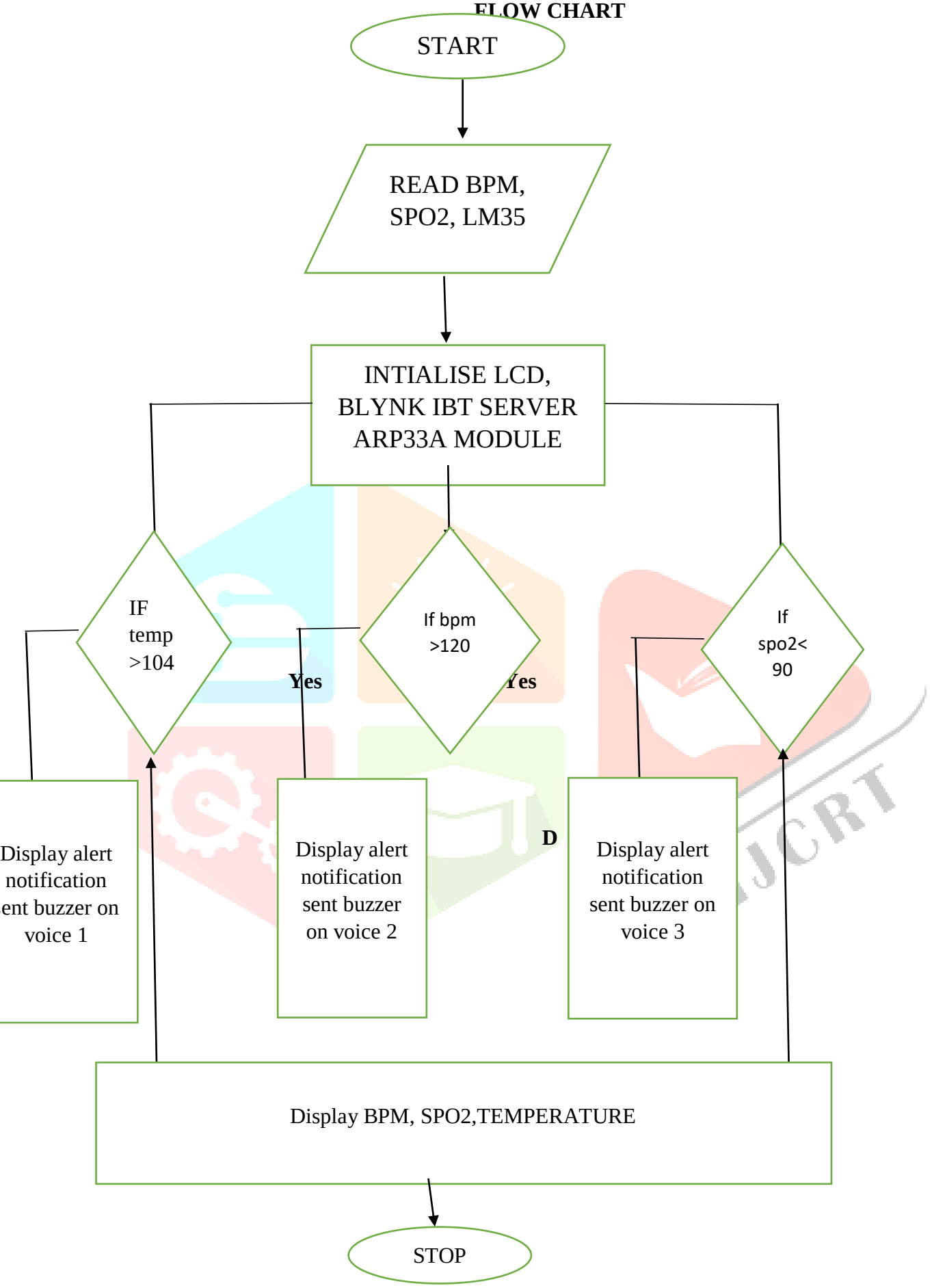
EXISTING SYSTEM

- The current model accepts inputs for temperature and pulse, and when either of those values rises, an alert notification is shown on the LCD screen.
- On GSM, it is built.

PROPOSED SYSTEM

- Currently, the patient room's lcd screen is the only place where the alert notification is shown.
- The message is visible in the patient's room during emergencies, making it impossible for physicians to arrive at the scene in time.
- The doctors or nurses can check on the patient in an emergency with the help of this suggested system.

FLOW CHART


START
READ BPM, SPO2, LM35
INTIALISE LCD, BLYNK IBT SERVER ARP33A MODULE
IF temp >104
If bpm >120
If spo2< 90
Yes
Yes
Display alert notification sent buzzer on voice 1
Display alert notification sent buzzer on voice 2
Display alert notification sent buzzer on voice 3
Display BPM, SPO2,TEMPERATURE
STOP

Experimental Set-up

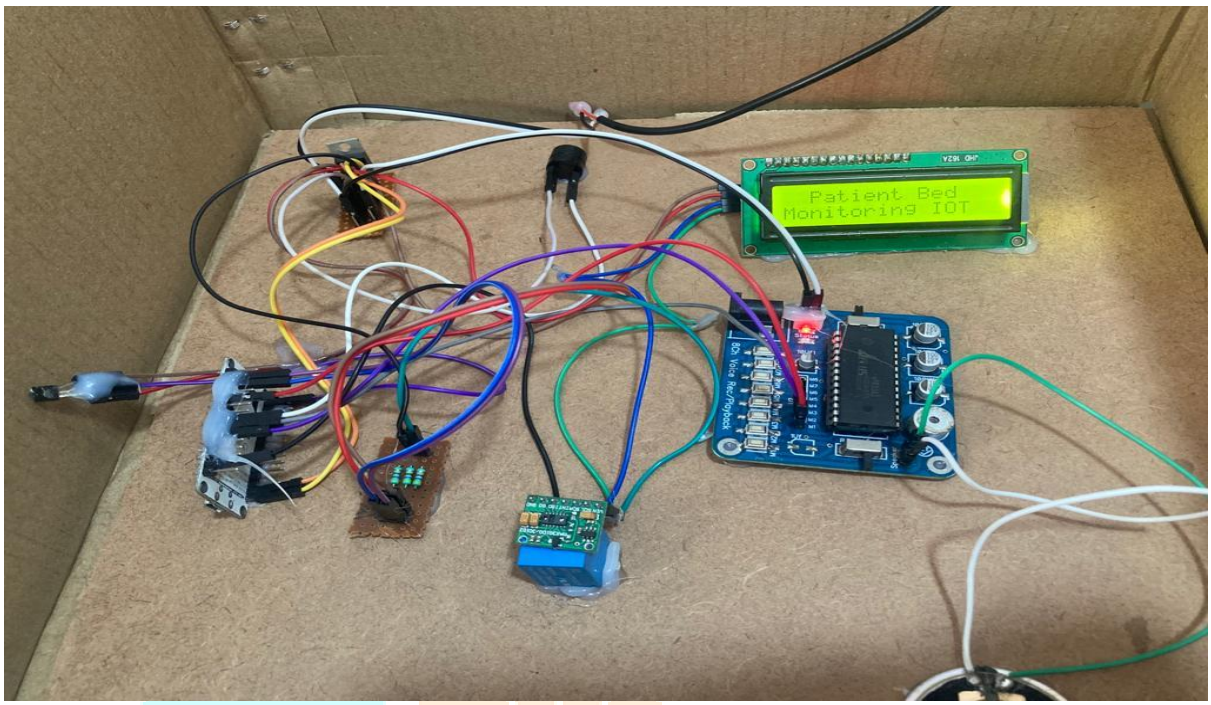


Fig.2 Experimental Set-up

RESULT:

This system's primary objective is to measure the patient's temperature and heartbeat. The patient should be completely at ease while they are in the hospital. So, while designing this system, we focused on the value and protection of the patient. Doctors receive warning messages on their mobile devices when the temperature or pulse rises, and a speaker also plays a voice message. Because of this, the doctor is informed about the patient's state and can quickly locate the patient.

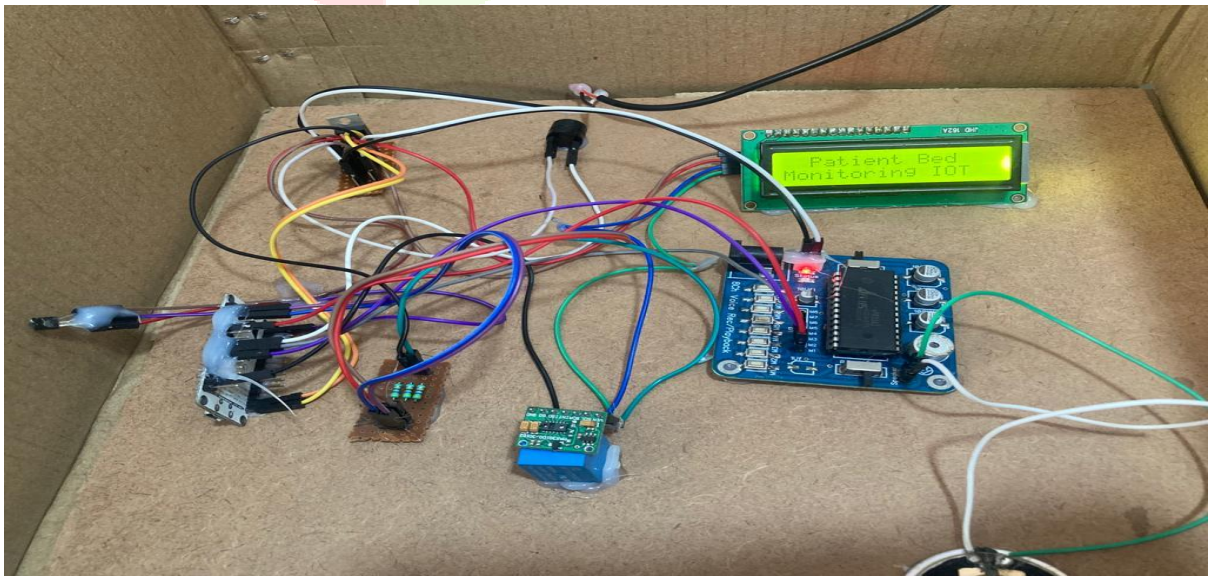


Fig.3 Result

ADVANTAGES

- Notifies the carer or doctor who is treating the patient when their temperature rises.
- Improves medical care by contributing to it.
- Inexpensive and simple to use.

APPLICATIONS

- In intensive care units (ICU)
- Emergency rooms of hospitals.
- Controlling domestic electrical appliances like doors, fans, etc. is possible thanks to home automation.

CONCLUSION

The therapy is made easier as a result. When there is an emergency, it aids in the transmission of alert messages so that the doctors can quickly locate the patients and assist them. It informs the family members of the emergency as well as the physicians. During times of distress, it is extremely useful. Not only in hospitals but even in houses where patients can be monitored from anywhere in the world. The alert messages could be sent to any corner of the world.

FUTURE SCOPE

In the future, it can be applied to a large number of people, or beds, at once. The amount of oxygen in the blood can also be measured. We can identify diseases and develop preventative measures based on blood oxygen levels.

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