

DESIGN AND IMPLEMENTATION OF IOT BASED SMART HEALTH CARE MONITORING SYSTEM

Dr. K. Shashidhar¹, B Benhur², Khaja Moinuddin³, Rizwan Ahmad⁴

¹Professor Department Of ECE, Lords Institute of Engineering and Technology, Hyderabad, India. ^{2,3,4}Department of ECE, Lords Institute of Engineering and Technology, Hyderabad, India.

ABSTRACT: Almost every part of daily life now involves electronics. As people become more aware of their health issues, there is an increased need for hospitals and diagnostic facilities with modern equipment. Special units, such critical care units, are employed in the biomedical sciences. The goal of today's healthcare sector is to provide better treatment to individuals whenever they need it, wherever they are in the globe, in a more affordable and patient-friendly way. In the current work, the ARM7 LPC 2148 processor is used to acquire and analyse physiological metrics including heartbeat, pulse rate, and temperature.

Keywords:- Heart Rate, Temperature, ARM, IoT and GSM.

I. INTRODUCTION:

With of advances in technology, it is now feasible to design a vital sign monitoring system based on a hornet that is able to display, record, and transmit signals from the human body to any location outside of the body. This article covers a variety of topics, including the collection of physiological parameters such as temperature and pulse rate, their pre-processing, their presentation in a graphical user interface for the doctor to observe, as well as the viewing of therapeutically valuable data. All of these topics are discussed in detail. It is anticipated that this system, which has the capability to interface with a computer and be brought under a network system, will monitor patients who are receiving critical care in a manner that is more convenient and accurate for the purpose of diagnosis. This will enable the attending physician to perform this monitoring while sitting in his own office rather than being physically present close to the patient's bed.

II. COPYRIGHT FORM

Using the simulation described earlier, a real Internet of Things-based smart healthcare system has been created. This system is able to detect changes in certain data in its immediate surroundings, compare those changes to the threshold value that was previously established, and decide whether or not an alarm should be sounded.

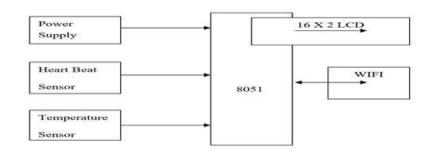
III. ACKNOWLEDGMENT

Do an inspection on the component that identifies a fire. A lighter is used to stoke the flames of the fire. When the lighter flame is recognised, the first LED light on the device illuminates and a buzzer is also activated on the device. The next step is to determine how far away the flame can be seen from the lighter. According to the specs of the lighter, a flame may be seen from a distance of up to 71 cm away.

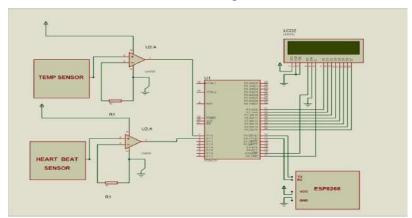


BLOCK DIAGRAM

Transmitter:



Schematic Diagram:



Hardware Description

For the components to function, +5V is supplied via the power supply section. A steady power source of +5V is provided by the IC LM7805.

A transformer is attached to the ac voltage, which is normally 220V, and steps it down to the necessary dc output level. A simple capacitor filter is used to provide a dc voltage before a diode rectifier delivers a full-wave rectified voltage. Typically, some ripple or ac voltage fluctuation appears in the resultant dc voltage.

Voltage Regulators

A class of frequently used ICs includes voltage regulators. The circuitry for the reference source, comparator amplifier, control device, and overload protection are all combined in a single IC in regulator IC units. A fixed positive voltage, a fixed negative voltage, or an adjustable set voltage may all be regulated by IC devices.



Microcontroller

A computer-on-a-chip used to operate electrical devices is called a microcontroller (or MCU). Unlike a general-purpose microprocessor, it is a kind of microprocessor that places a focus on cost-effectiveness and self-sufficiency (the kind used in a PC). In contrast to broader purpose microprocessors, which need extra chips to do these tasks, ordinary microcontrollers come with all the memory and ports required for basic applications.

Description: -

The AT89S52 is a low-power, high-performance CMOS 8-bit microcontroller with 8K bytes of in-system programmable Flash memory.

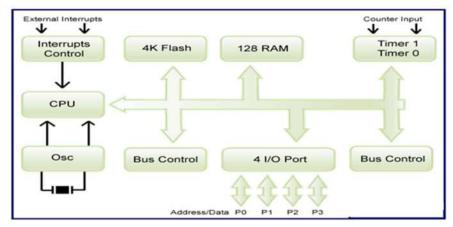


Figure: BLOCK DIAGRAM OF 8052

PIN DIAGRAM

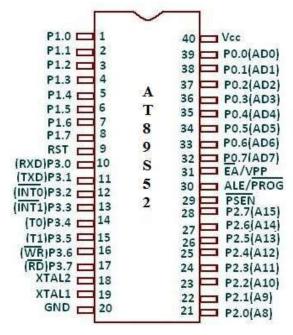


Figure: PIN DIAGRAM OF 8052



IV. PIN DESCRIPTION

40 pin VCC Supply voltage.20 pin GND Ground.

ARCHITECTURE OF 8052

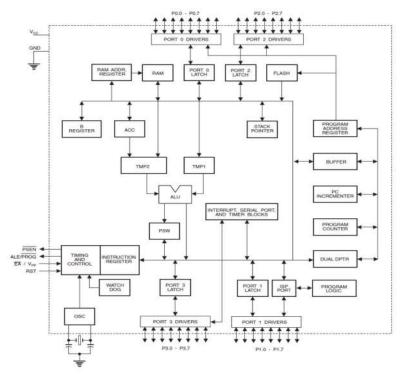
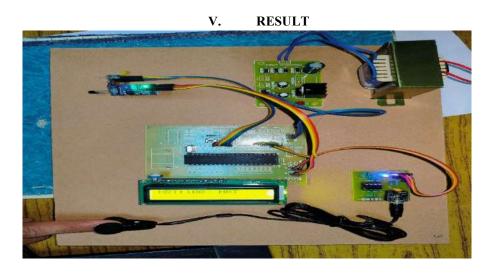


Figure: Internal Architecture Of 8052

REGISTERS

During CPU operations, registers and accumulators act as temporary memory locations. Using a or more internal buses, they communicate with one another. Each register is the same size as the internal data bus in length.





VI. CONCLUSION

Design and testing of the "Design and Implementation of IOT Based Smart Health Care Monitoring System "have been completed successfully. It was created by merging functionality from every piece of hardware used. Every module's existence and thoughtful placement contribute to the unit's optimal performance. Second, the project was successfully completed with the aid of cutting-edge ICs and expanding technologies.

VII. REFERENCE

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