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Smart Communicative Covid-19 Informative and Scanning BOT

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ABSTRACT: Low energy mechanics have allowed remote health monitoring systems using IoT to be developed for monitoring the student's body temperature. Which have a sensor at this device to check the temperature of the student, as well as up-to-date communication and information using IoT technology, that have ability to monitor remotely the students health and well-being in a simple fashion with low cost. Therefore, the students will go to the college from different part of the locations. Rather than going to hospitals for checking the students for if they are affected by any fever or CORONA. In a real-time, medical staff can also keep track of the overall health conditions of the students and provide proper feedback and support at a distance. The report of the students health system will directly sent a message and the status updated at the IoT platform for the reference purpose to head of the college.

KEYWORDS: Automation, IoT, Smart Communication

I. INTRODUCTION

The student information in managing for workflow will be worked efficiently within the campus. We designed the Patient Management and Tracking System (PMTS) based on RFID with GSM and IoT device based communication method. This system is able to track the patient in campus, and manage the students with symptoms at a campus/class rooms. Therefore, we are sure that this will be useful for decreasing the spreading of COVID'19 RFID tags, or simply "tags", are small transponders that respond to queries from a reader by wirelessly transmitting a serial number or similar identifier. They are heavily used to track items in production environments and to label items in supermarkets. They are usually thought of as an advanced barcode. However, their possible area of use is much larger. This paper presents a few new applications that are possible using RFID technology such as locating lost items, tracking moving objects, and others. RFID tags are expected to proliferate into the billions over the next few years and yet, they are simply treated the same way as barcodes without considering the impact that this advanced technology has on privacy.

II. EXISTING SYSTEM

The aging population and the growing requirement of healthcare services in clinics encourage the arrival of remote elderly patient monitoring. Development in the physiologic sensory systems and the advancement of stable wireless network low energy mechanics have allowed remote health monitoring systems to be developed. Smart homes, which have wearable sensors and medical actuators, as well as up-to-date communication and information technology, have the ability to monitor remotely the elderly health and well-being in a simple fashion with low cost. Therefore, the elderly will stay in their comfortable homes rather than going to hospitals where sometimes they face expensive and limited facilities. In a real-time, medical staff can also keep track of the overall health conditions of the elderly people and provide proper feedback and support at a distance.

III. PROPOSED SYSTEM

A remote health monitoring systems to be developed for monitoring the student's body temperature and update the status using IOT. A static device with having sensor at this device to check the temperature of the student, as well as up-

to-date communication and information technology, have the ability to monitor remotely by using IoT the students health and well-being in a simple fashion with low cost. In a real-time, medical staff can also keep track of the overall health conditions of the students and provide proper feedback and support at a distance. The report of the students health system will directly sent a message and the status updated at the IoT platform for the reference purpose to head of the college.

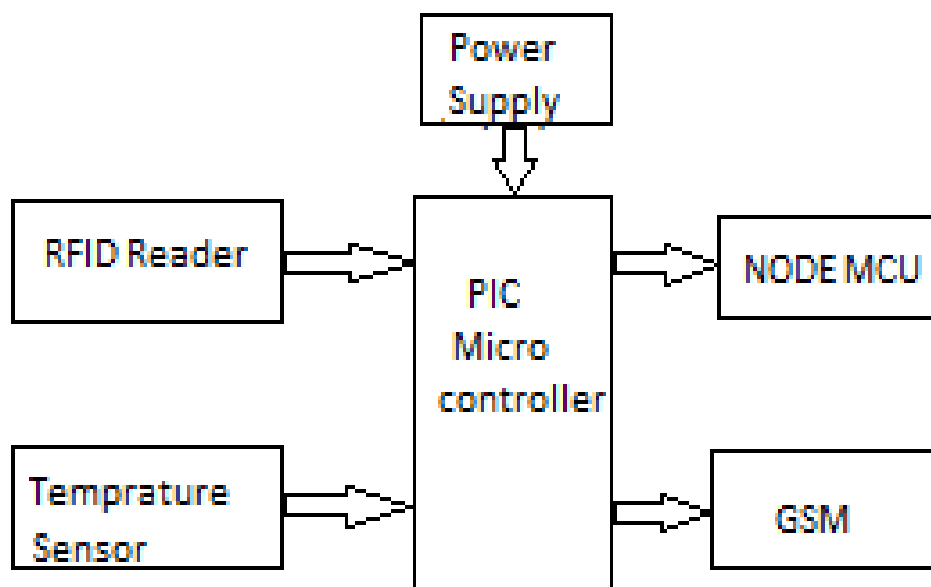


Fig.1.Block Diagram

A. ARDUINO IDE

The Arduino Uno has a number of facilities for communicating with a computer, another Arduino, or other microcontrollers. The ATmega328 provides UART TTL (5V) serial communication, which is available on digital pins 0 (RX) and 1 (TX). An ATmega16U2 on the board channels this serial communication over USB and appears as a virtual com port to software on the computer. The ATmega16U2 firmware uses the standard USB COM drivers, and no external driver is needed. However, on Windows, a .in file is required. The Arduino software includes a serial monitor which allows simple textual data to be sent to and from the Arduino board.

The RX and TX LEDs on the board will flash when data is being transmitted via the USB-to-serial chip and USB connection to the computer (but not for serial communication on pins 0 and 1). A Software Serial library allows for serial communication on any of the Uno's digital pins. The ATmega328 also supports I2C (TWI) and SPI communication. The Arduino software includes a Wire library to simplify use of the I2C bus; see the documentation for details. For SPI communication, use the SPI library.

B. Programming

The Arduino Uno can be programmed with the Arduino software (download). Select Arduino Uno from the Tools > Board menu (according to the microcontroller on your board). For details, see the reference and tutorials. The ATmega328 on the Arduino Uno comes pre-burned with a boot loader that allows you to upload new code to it without the use of an external hardware programmer. It communicates using the original STK500 protocol (reference, C header files). You can also bypass the boot loader and program the microcontroller through the ICSP (In-Circuit Serial Programming) header; see these instructions for details. The ATmega16U2 (or 8U2 in the rev1 and rev2 boards) firmware source code is available. The ATmega16U2/8U2 is loaded with a DFU boot loader, which can be activated by:

- On Rev1 boards: connecting the solder jumper on the back of the board (near the map of Italy) and then resetting the 8U2.
- On Rev2 or later boards: there is a resistor that pulling the 8U2/16U2 HWB line to ground, making it easier to put into DFU mode.
- You can then use Atmel's FLIP software (Windows) or the DFU programmer (Mac OS X and Linux) to load a new firmware. Or you can use the ISP header with an external programmer (overwriting the DFU boot loader). See this user-contributed tutorial for more information.

C. Automatic Reset

Rather than requiring a physical press of the reset button before an upload, the Arduino Uno is designed in a way that allows it to be reset by software running on a connected computer. One of the hardware flow control lines (DTR) of the ATmega8U2/16U2 is connected to the reset line of the ATmega328 via a 100 nano farad capacitor. When this line is asserted (taken low), the reset line drops long enough to reset the chip. This means that the boot loader can have a shorter timeout, as the lowering of DTR can be well-coordinated with the start of the upload. This setup has other implications. When the Uno is connected to either a computer running Mac OS X or Linux, it resets each time a connection is made to it from software (via USB).

For the following half-second or so, the bootloader is running on the Uno. While it is programmed to ignore malformed data (i.e. anything besides an upload of new code), it will intercept the first few bytes of data sent to the board after a connection is opened. If a sketch running on the board receives one-time configuration or other data when it first starts, make sure that the software with which it communicates waits a second after opening the connection and before sending this data. The Uno contains a trace that can be cut to disable the auto-reset. The pads on either side of the trace can be soldered together to re-enable it. It's labeled RESET-EN. You may also be able to disable the auto-reset by connecting a 110 ohm resistor from 5V to the reset line.

D. USB over current Protection

The Arduino Uno has a resettable poly fuse that protects your computer's USB ports from shorts and over current. Although most computers provide their own internal protection, the fuse provides an extra layer of protection. If more than 500 mA is applied to the USB port, the fuse will automatically break the connection until the short or overload is removed. If a sketch running on the board receives one-time configuration or other data when it first starts, make sure that the software with which it communicates waits a second after opening the connection and before sending this data. Computer simulation of automotive crashes offers the promise of both reduced cost and reduced design time. Similar trends are also evident in other industries, for example, the manufacture of glass, tires, and jet engines (to prevent catastrophic failure during bird impact).

III. SIMULATION

Prototype test simulation by computers is rapidly becoming an important part of the design process in many industries. For example, in the automotive industry crashworthiness design is increasingly performed by computer simulation rather than physical prototypes. Computer simulation of automotive crashes offers the promise of both reduced cost and reduced design time. Similar trends are also evident in other industries, for example, the manufacture of glass, tires, and jet engines (to prevent catastrophic failure during bird impact).

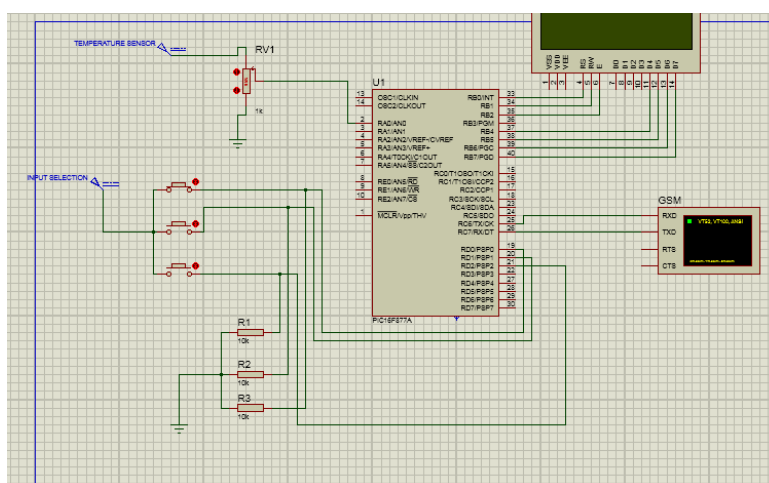


Fig.2.Simulation Results



IV.CONCLUSION

COVID-19 outbreak is unprecedented and has disrupted lives of millions of people across the globe. This pandemic has opened several research challenges and opportunities that our community must address to equip itself for the future. The proposed architecture and AI assisted applications discussed in the article can be used to effectively and timely enforce social distancing community measures, and optimize the use of resources in critical situations. This article offers a conceptual overview and serves as a steppingstone to extensive research and deployment of automated data driven technologies in smart city and intelligent transportation systems. For future, we envision to develop these AI driven applications for wider adoption in the community.

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