INTERNATIONAL JOURNAL OF
RECENT TRENDS IN MULTIDISCIPLINARY RESEARCH
Special Issue, March-April 2023, Vol 3 (02), 39-42.
International conference on Innovation towards Sustainable Development Goals-ICISDG'23 ISSN No: 2583 0368

Rapid Access Multidisciplinary Palliative Assessment to Improve Cancer Patient Experience

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Article Type: Research

OPENACCESS
Article Citation:
Amarnath prabakaran.A[1], Krishna kumar.S[2] ,Gowtham sundar.M[3], Vivekanandhan.S[4] , "Rapid Access Multidisciplinary Palliative Assessment to Improve Cancer Patient Experience", International Journal of Recent Trends In Multidisciplinary Research, March-April 2023, Vol 3(02), 39-42.

https://www.doi.org/10.59256/ijrtmr.20230402c09

Abstract: Patients with cancer-induced bone pain often wait weeks to receive palliative radiotherapy treatment and to have an assessment by specialist palliative care services and other allied health professionals (physiotherapy, occupational therapy, dietetics). While waiting, they continue to have psychological distress and potentially debilitating physical problems. The availability of high-speed internet allows the system to monitor the parameters at regular intervals. Furthermore, the cloud platform allows data storage so that previous measurements could be retrieved in the near future. Most patients do not receive adequate care during critical conditions such as different health issues, which is why many suffer during these times. The data of sensors from patient's are communicated through Internet connectivity IOT (Internet of Thing). Patient movement actions such as walking, temperature high, this information will be saved in the database and processed before being returned.

Key Word: IOT, Cloud computing, Data base.

1. Introduction

Future has been expanding overall because of critical enhancements in medical care, and medication, as well as because of developing awareness about private and ecological cleanliness. Also, throughout the course of recent many years, there has been expanding revenue in family arranging in this manner adding to declining rates of birth all over the planet. As per the World Wellbeing Association (WHO). In any case, this gigantic maturing populace would make a critical effect on the financial construction of society as far as friendly government assistance and medical service needs. Other than this, the expense related with medical services administrations keeps on taking off due to the rising cost of professionally prescribed drugs, clinical instruments, and medical clinic care.

Hence, it is a most extreme need to create and carry out new techniques and innovations to give better medical services administrations at a reasonable cost to the maturing populace or to individuals of those areas having restricted admittance to medical care while guaranteeing greatest solace, autonomy, and cooperation among individuals. Far off medical services observing permits individuals to keep on remaining at home instead of economical medical services offices like clinics or nursing homes. It subsequently gives a productive and practical option in contrast to on location clinical checking.

2. Materials and Methods

Hardware Requirements:

Power USB

Arduino board can be powered by using the USB cable from system computer. All system need to do is connect the USB cable to the USB connection.

Power (Barrel Jack)

Arduino boards can be powered directly from the AC mains power supply by connecting it to the Barrel Jack (2).

Voltage Regulator

The function of the voltage regulator is to control the voltage given to the Arduino board and stabilize the DC voltages used by the processor and other elements.

Crystal Oscillator

The crystal oscillator helps Arduino in dealing with time issues. How does Arduino calculate time? The answer is, by using the crystal oscillator. The number printed on top of the Arduino crystal is 16.000H9H. It tells us that the frequency is 16,000,000 Hertz or 16 MHZ.

Arduino Reset

System can reset system Arduino board, i.e., start system program from the beginning. System can reset the UNO board in two ways. First, by using the reset button (17) on the board. Second, system can connect an external reset button to the Arduino pin labelled RESET (5).

Pins (3.3, 5, GND, Vin)

- 3.3V (6) − Supply 3.3 output volt
- 5V (7) − Supply 5 output volt
- Most of the components used with Arduino board works fine with 3.3 volt and 5 volt.
- GND (8) (Ground) − There are several GND pins on the Arduino, any of which can be used to ground system circuit.
- VIN (9) − This pin also can be used to power the Arduino board from an external power source, like AC mains power supply.

Analog pins

The Arduino UNO board has six analog input pins A0 through A5. These pins can read the signal from an analog sensor like the Heart beat sensor or temperature sensor and convert it into a digital value that can be read by the microprocessor.

Main microcontroller

Each Arduino board has its own microcontroller (11). System can assume it as the brain of system board. The main IC (integrated circuit) on the Arduino is slightly different from board to board. The microcontrollers are usually of the ATMEL Company. System must know what IC system board has before loading up a new program from the Arduino IDE. This information is available on the top of the IC. For more details about the IC construction and functions, system can refer to the data sheet.

ICSP pin

Mostly, ICSP (12) is an AVR, a tiny programming header for the Arduino consisting of MOSI, MISO, SCK, RESET, VCC, and GND. It is often referred to as an SPI (Serial Peripheral Interface), which could be considered as an "expansion" of the output. Actually, system are slaving the output device to the master of the SPI bus.

Power LED indicator

This LED should light up when system plug system Arduino into a power source to indicate that system board is powered up correctly. If this light does not turn on, then there is something wrong with the connection.

TX and RX LEDs

On system board, system will find two labels: TX (transmit) and RX (receive). They appear in two places on the Arduino UNO board. First, at the digital pins 0 and 1, to indicate the pins responsible for serial communication. Second, the TX and RX led (13). The TX led flashes with different speed while sending the serial data. The speed of flashing depends on the baud rate used by the board. RX flashes during the receiving process.

Digital I/O

The Arduino UNO board has 14 digital I/O pins (15) (of which 6 provide PWM (Pulse Width Modulation) output. These pins can be configured to work as input digital pins to read logic values (0 or 1) or as digital output pins to drive different modules like LEDs, relays, etc. The pins labeled "~" can be used to generate PWM.

AREF

AREF stands for Analog Reference. It is sometimes, used to set an external reference voltage (between 0 and 5 Volts) as the upper limit for the analog input pins.

Software Description:

This chapter describes the design and current implementation of the Proteus dependability manager and object factory. The application requirements and the type of Aqua applications that are currently supported by Proteus are also described. The gateway, also a component of Proteus**.**

proteus software description

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Methodology:

One of the greatest successes of radiotherapy has been its ability to palliate symptoms from advanced and metastatic cancers. Unfortunately, patients face barriers to accessing care and the demand for treatment is rising. Rapid access palliative radiotherapy programmers were created in response to these concerns, and over time they have proliferated and succeeded internationally. Dedicated rapid access palliative radiotherapy programmers developed as one of the solutions to this capacity problem. The specific aims and logistics of programmers varied depending on local needs assessments and clinical resources, but a common primary objective was to priorities timely access to evidence-based treatment for patients with symptomatic advanced and metastatic cancers. The availability of high-speed internet allows the system to monitor the parameters at regular intervals. Furthermore, the cloud platform allows data storage so that previous measurements could be retrieved in the near future. Most patients do not receive adequate care during critical conditions such as different health issues, which is why many suffer during these times. The data of sensors from patient's are communicated through Internet connectivity IOT (Internet of Thing). Patient movement actions such as walking, temperature high, this information will be saved in the database and processed before being returned.

3. Result

TERMS	NORMAL PERSON	ABNORMAL PERSON
Temperature	31	28
Accelerometer	Normal	Person alert

4. Discussion

One of the greatest successes of radiotherapy has been its ability to palliate symptoms from advanced and metastatic cancers. Unfortunately, patients face barriers to accessing care and the demand for treatment is rising. Rapid access palliative radiotherapy programmers were created in response to these concerns, and over time they have proliferated and succeeded internationally. Dedicated rapid access palliative radiotherapy programmers developed as one of the solutions to this capacity problem. The specific aims and logistics of programmers varied depending on local needs assessments and clinical resources, but a common primary objective was to priorities timely access to evidence-based treatment for patients with symptomatic advanced and metastatic cancers. The availability of high-speed internet allows the system to monitor the parameters at regular intervals. Furthermore, the cloud platform allows data storage so that previous measurements could be retrieved in the near future. Most patients do not receive adequate care during critical conditions such as different health issues, which is why many suffer during these times. The data of sensors from patient's are communicated through Internet connectivity IOT (Internet of Thing). Patient movement actions such as walking, temperature high, this information will be saved in the database and processed before being returned.

5. Conclusion

An IoT-based wearable health detection system using an pressure sensor because fall detection is a serious concern in the healthcare profession, especially for the elderly. The system monitors the human body's movement, and the detection mechanism employs a threshold level to detect a change from daily routines. Whenever the acceleration exceeds the critical threshold, a fall is detected, and an alert is triggered, as well as a message sent to the patient's contact user's profile and the physician. The Internet of Things is considered now as one of the feasible solutions for any remote value tracking especially in the field of health monitoring. It facilitates that the individual prosperity parameter data is secured inside the cloud, stays in the hospital are reduced for conventional routine examinations and most important that the health can be monitored and disease diagnosed by any doctor at any distance. In this paper, an IoT based health monitoring system was developed. The system monitored body temperature, pulse rate and using sensors, which are also displayed on a LCD.

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