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Smart IOT Drip

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ABSTRACT: In hospitals,saline feeding is done to treat dehydration problem so as to improve their health. Saline level monitoring is done by care taker,nurses or doctors of the concerned patient.Most of the time due to heavy work load of nurses,doctors or due to inattentiveness of care takers,a lot of patients are getting hurted and sometimes it leads to death.In order to prevent this a smart saline level monitoring system is proposed in this paper with the help of IoT.In this system sensor is fixed at a critical level and when the sensor senses the saline has reached a critical level,it starts sending signals to Arduino board and alarm is given to care taker with the help of buzzer and nurse is intimated with a message that saline has been completed.A DC motor is used to stop reverse process when the saline has reached the critical level**.**
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Keywords: Saline level monitoring,Internet of things(IoT),Buzzer,Arduino.

1 Introduction

After invention of laser in 1940 the development of The internet of things (IoT) is a system of interrelated computing devices, mechanical and digital machines,objects,animals or people that are provided with unique identifiers(UFID) and the ability to transfer data over a network without requiring human to human or human to computer interaction. This provides an opportunity for direct integration of physical world into computer based systems.IoT allows objects to be controlled remotely across existing network infrastructure. This technique also has autonomous control feature by which any device can be controlled without any human interaction.The versatility of IoT has become very popular in recent years.There are many advantages in having a device based on IoT.A huge number of application arises everyday with the help of IoT and one such emerging area is healt hcare.

Whenever a saline is fed to patients to treat dehydration, they have to be continuously monitored by a nurse or care taker. But due to inattentiveness or busy schedule of a nurse or care taker it is not monitored properly and hence when the saline bottle gets empty ,due to the pressure inside the saline bottle ,the reverse flow of blood to the saline bottle will take place, if it happens it will reduce the count of red blood cells in the patients and it may also cause heart attck due to “AIR EMBOLISM”.Therefore there is a need in developing an automatic saline level monitoring system which will reduce human intervention to some extend.Here we have proposed a system which will reduce human intervention and saves life of patients.

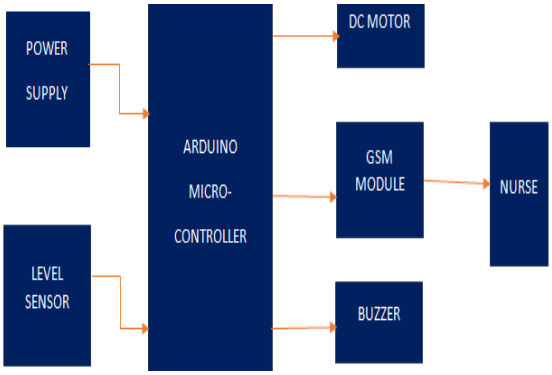
EXISTING SYSTEM

In the existing system saline will be fed to patients who are dehydrated,the flow of saline to patients will be controlled by using roller clamp.It is the duty of concerned nurses or doctors to change the saline bottle when it is completed.Every time nurse or doctor of a concerned patient has to monitor the level of saline bottle for its replacement once it is completed.So there is a need for development of IoT based saline level monitoring system which will reduce human intervention to some extend.

PROPOSED SYSTEM

In the proposed system, once when the saline in the saline bottle

PROPOSED SYSTEM ARCHITECTURE



SYSTEM REQUIREMENTS

A.LEVEL SENSOR

It is used to sense the pre-defined critical level.It is positioned at the critical level of the saline bottle.It is used to indicate the saline completion status.

B.POWER SUPPLY UNIT

It is used to convert DC power to AC power.This AC power can be given to the internal components of the proposed saline level monitoring system.

C.BUZZER It is used to give alarm to the care takers who are with the patients during saline feeding.

reaches a predefined critical level,the system performs the following

1.Sensor will be fixed at the pre-defined critical level.

2.When the saline in the saline bottle reaches this limit,an alarm will be given to care takers with the help of buzzer.

3.With the help of GSM module an alert message about the saline completion will be send to concerned nurse .At last DC motor is used to pinch the intervenous tube which stops the flow of saline to patients.

D.DC MOTOR

It is a rotary electrical machine which converts direct current electrical energy into mechanical energy.It is used to cause movements in the spring according to the command given by micro controller.

E.GSM MODULE

It is used to alert the nurse about the saline completion status via a message.

SYSTEM WORKING

Sensor will be positioned at the critical level of the saline bottle.Once the saline reaches the critical level,the following happens

1.Care taker will be alerted with the help of buzzer.

2.Concerned nurse will be alerted with the help of message.

3.DC motor is used to stop flow of saline in the saline bottle.

Conclusions

In this project, the system will provide an efficient saline level monitoring system which will reduce the human intervention to a great extent. During night times if saline feeding is done to patients,the proposed methodology will work more effectively for the replacement of saline bottle once it is completed.It saves time and it eliminates risks such as reverse flow of blood to the saline bottle once it is completed.

using powder XRD analysis. Functional groups present in the crystals were confirmed using FT-IR spectroscopic studies. Optical study shows that crystal is transparent in the entire visible region and discloses the suitability of the crystal for optical applications. Dielectric study shows that low value of dielectric loss at higher frequencies. TG/DTA studies reveal that crystal is stable up to 90°C. Photoconductivity study ascertains the negative photoconductivity nature. Powder SHG efficiency of the grown crystal is 12 times greater than that of KDP. All the preceding results suggest that 8HQ crystal can be used as a potential candidate for photonic, electro-optic and SHG applications.

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