"An overview Implementation of an Internet of Things System for Smart Hospitals"

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ABSTRACT

Internet of Things (IoT) enable humans to urge high level of automate by establish system using sensors, interconnected devices and Internet. In ICU, patient monitoring is serious and most vital activity, as small delay in decision associated with patients' treatment may cause permanent disability or maybe death. Most of ICU devices are equipped with various sensors to calculate health parameters, but to watch it all the time remains challenging job. We are proposing IOT based system, which may help to fast conveying and identifying emergency and initiate communication with healthcare staff and also helps to initiate proactive and quick treatment. This health care system reduces possibility of human mistakes, delay in communication and helps doctor to spare longer in decision with accurate observations.

Keywords— *Internet of Things(IoT), ICU, Real Time, smart hospital, Temperature sensor Heartbeat Sensor, wi-fi module, microcontroller, 2-way communication, Arduino UNO.*

I. INTRODUCTION

IoT system for healthcare sector especially useful in ICU, CCU, and Ambulances etc. Efficient monitoring in ICU, CCU or ICU on wheel is indispensable need in healthcare. In ICU, patient monitoring is critical and most important activity, as small delay in decision associated with patients' treatment may cause permanent disability or maybe death. Most of ICU devices are equipped with various sensors to live health parameters, but to watch it all the time is still challenging job. In nutshell the proposed intelligent real time IoT based system for monitoring ICU Patient will prevent from human errors and allow to continuous patient monitoring with less support staff; also provide efficient communication for precise information. Real time patient monitoring system collect data through bed side patient monitors. Inter communication network system uploads this data on cloud for further processing. Intelligent software agent process this data further and sending notification to special monitoring cell and doctor.

II. LITERATURE SURVEY

" Charit An Intelligent Real Time IoT Based System(IRTBS) for Monitoring *ICU Patient* Online "
Author- Mr. Bharat Prajapati, Dr. Satyen Parikh, Mr. Jignesh Patel, Year- 2018"

In This proposed architecture of IoT system for healthcare sector especially useful in ICU, CCU, and

Ambulances etc. Efficient monitoring in ICU, CCU or ICU on wheel is indispensable need in healthcare. Doctors always prefer to have precise information in marginal time about the patients under treatment. Presently nurses do continuously monitoring for such critical cares but availability of qualified nurses and other healthcare staff is big concern particularly most of developing country like India, China. This method has accuracy of 96.4 percent and has proven to be efficient and handy.

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III. IMPLEMENTATION
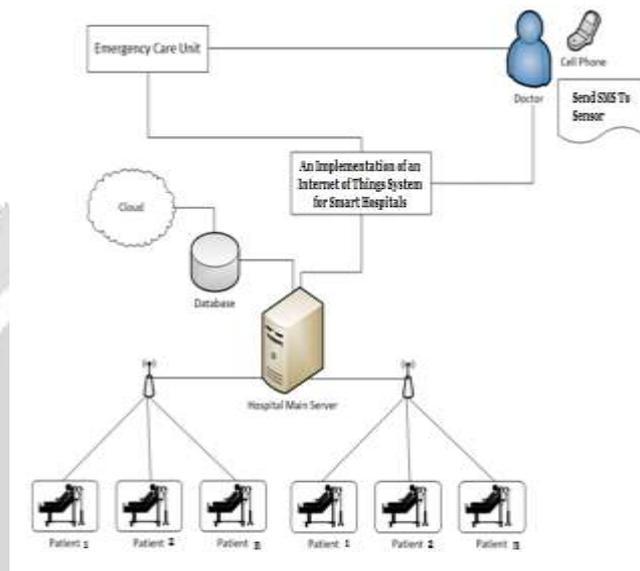
Sensor:Sensors are preliminary responsible to capture continuously patients' health data. It are often a part of wearable devices or bedside monitor system. Typical sensors utilized in bedside monitor measured following parameters.

Interconnection Networks: Interconnection networking allows sensor to transmit captured health data to the opposite systems' component like server etc.

Server and Database - Serves got to manage all the received real time patient data. Also server has database for normal health parameters. The system should be ready to update standard health parameters as per WHO indicators. the subsequent tables give an example of sample of ordinary health parameters.

Cellular Phone or Personal digital assistant (PDA): People from the various location, communicate which one another through cellar phone. Communication through mobile phones not only reduces the value but it also provides faster way of communication between peoples. Doctors can immediate take decision and supply quickly medical treatment to critical patient admitted in ICU.

Intelligent software agent: Intelligent software agent are automated code preliminary responsible to try to to essential processing on health data captured by the sensors. The processing may have different level. At very basic level the captured data stored in database and compared with the quality health parameters. Incase if any parameters crossed the boundary (lower limit and upper limit) defined by the standards. Immediately software agent generates notification and sends it to Emergency Care Unit and anxious practitioners. The intelligent automated software agents' help for following activities, just in case of causality observed supported captured health data and standards.

IV.RESULT ANALYSIS

The Admin can add ICU supervisor that supervisor can assign specific doctor to patient and supervisor can provide kit for patient and detect patient updated health consistent with his sensors value. Assigned doctor can view patient profile and his statistical graph associated with his health, doctor also predict the patient health

consistent with patient's sensor captured value and also view the patient current sensor value also doctor get auto alert MSG if patient health are going to be get serious consistent with sensors value. Then doctor can give proper treatment to patient.

V. CONCLUSION

Real time IoT based system for monitoring ICU Patient reduces chance of human errors significantly as patient admitted in hospital require 24x7 continuous monitoring. is normal scenario patients as compared to attendees doctors. IoT based systems automate the critical observations in ICU and facilities doctors to spare towards decision. Future work can extend by connecting and coordinating doctors availability for treatment and contribute /serve to the hospitals and helps in balancing the load. The proposed architecture tested and compared with existing system.this application will overcome problems of collecting and making donations. Moreover, also allows set of features which are extremely vital anguage selection, in app communication, map integration, maintaining donation records, Enhanced security measures, donation goal bar, help post notifications and various customization which are immensely desired by end users. this application will overcome problems of collecting making donations . Moreover, also allows set of features which are extremely vital language selection, in app communication, map integration, maintaining donation records, Enhanced security measures .

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