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ANAMNESIS - Analysis, Prediction And A Digital Helping Hand To Organize & Monitor

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ABSTRACT

Now a days many health servicing devices are available, but they are not connected to any system. We are proposing an E-health card integrated with smart medicine box. The card will consist of an unique Id to maintain confidentiality of health related details in it. The data will be updated and fetched from our cloud database at real time. Information contained in the card can be read and modified in the registration branch of hospitals, laboratories, ambulances, pharmacies and other required places with the card readers. The basic idea is to provide exact checkup to the patient by the easy and secure access to the data stored within the card in any required place rather than carrying the whole bunch of documents. Whereas the medicine box system can be monitored by the patient and pharmacist as it will be linked to an online portal. This portal will be used to configure the medicine box by calculating the weight of each pill, setting the schedule of medicine intake, alarming the user of the number of remaining pills, generating alarms whenever the patient does not take the required number of pills or doesn't take them at all. ARTICLE INFO

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I. INTRODUCTION

A Remote Medicine Box monitoring system is an extension of a hospital medical system where a patient's vital medicine box state can be monitored remotely by Patient's Relative, Doctor and with Chemist. The proposed solution also includes a digital healthcare card which provides a Unique ID for each patient. The unique id will be the RFID card. The application includes healthcare history and prescriptions of patient, making it comparatively easier to access, than all kind of clinical records and documentations in form of paper. It will be a low cost device, which will be able to communicate through a web based system. Our system will have a medicine box attached with IOT sensors for centralized communication. An android application / web portal

having user login and a pharmacist login will be connected to the system.

Problem Statement:

Develop an Effective Web based Application using Cloud Services to help citizens maintain health history by creating e-health records covering administrative and medical information and by providing the citizens with e-health cards integrated with IOT based smart medicine box that alerts the user and pharmacist.

Objectives:

- To design a digital healthcare card this provides a unique Id for each patient.
- To make hassle free management of important prescriptions.

- To assist patient's relative and pharmacist, monitor the availability of medicine using an android application or a web portal.
- To provide a reminder to the patient regarding the prescribed schedule of medicine.

II. EXISTING SYSTEM

In existing system, the data is recorded in the form of paperwork or on general storage server. But generally that data is accessible to all the staff and doctors. Hence we are proposing a new way where patient, doctors and pharmacist are able to communicate through web application by using biomedical sensors and real time data transmission and processing through internet. Existing system also do not cover medicinal area and there is no system as per our best knowledge to keep the track of availability of medicines for patient.

III. LITERATURE SURVEY

[1] Title: - An IoT based Patient Health Monitoring System Author: - D.Shiva Rama Krishnan and Subhash Chand Gupta

Year: - 2018

This paperwork, Patient Health Monitoring is beyond the apple accept started to analyze assorted abstruse explanations in order to improve healthcare accouterment in an address that accompaniments absolute casework by assembling the abeyant of IoT. From this all the health related data and information of the Patients will be easily accessed on doctor's smartphone. So,we don't have to go to sanatorium each phase and directing a message towards the medic gets instantaneous medication associated to Patient's healthcare conditions.

[2] Title: - IoT Solutions for Health Monitoring: Analysis and Case Study

Author: - Ivan Medvedie and Oleg Illiashenko Year: - 2018 In the project the existing hardware and software components for the construction of medical solutions using IoT platform and cloud service were analyzed. The rationale for their choice is provided. Particular attention was paid to security and privacy. Next steps of the research will be dedicated to store and process the transmitted data, maintenance of used data statistics, using of artificial intelligence and neural networks for the definition of diseases and their prediction and development workstation for a doctor (decision maker).

[3] Title: - Advanced IOT Based Combined Remote Health Monitoring, Home Automation and Alarm System

Author: - JayeetaSaha and Arnab Kumar Saha Year: - 2018 In this project, we have successfully proposed an advanced IOT based automated remote health monitoring system by offering alarm notification along with prescribed medicine name and dose display. It could reduce the human error. The most important feature in this system is that the health condition of the patient could be monitored from the home as well and necessary action could be taken during semi- major ailment. This system needs an appropriate bandwidth since email alert notification and website visit for remote data monitoring through internet depends on the proper bandwidth of internet connection.

[4] Title: - Design of IoT based Generic Health Care System Author: -0 J.V.Alamelu and A.Mythili

Year: - 2017

In this Project, architecture for wireless sensor network based on the cloud computing platform has been proposed.

This work could be implemented for any real time application microclimate, Tsunami warning system.

[5] Title: - Health Monitoring Based on IoT using RASPBERRY PI

Author: - Amandeep Kaur and Ashish Jasuja Year: -2017 The proposed system provides accurate, low power and low cost system for remote health monitoring of people. Self - monitoring is facilitatedby the system as it is wearable. The system makes use of single board minicomputer Raspberry pi and IBM Bluemix cloud which further makes use of MQTT protocol for reliable services. The network systems have to ensure that the data generated by the IoT devices should be accessed only by the authenticated individuals by involving security controls like authentication by ID and password.

[6] Title: - Healthcare monitoring system based on IoT Author: - Krishna C S and Nalini Sampath Year: - 2017 www.ierjournal.org

The usage of IoT technology in healthcare reduces the cost and makes the solution highly scalable and as it supports easy expansion of nodes for vital collection as well as processing. As IoT based system is highly distributed, failures of a single node still make the system functional. The usage of IoT protocols enables easy integration to third party applications and devices.

[7] Title: - An IOT based Human healthcare system using Arduino Uno board

Author: - S. Jayapradha and P.M Durai Raj Vincent Year: - 2017

Human temperature depends upon different factors. The most important factor is metabolism rate. If this rate is low, then the temperature is also low and vice versa. During morning, usually the temperature is low as the body is at rest for the entire night. The temperature varies especially after food. The normal human temperature rate is 37 degree Celsius or 98.6 degree Fahrenheit.

[8] Title: - IOT BASED HEALTH MONITORING SYSTEMS

Author: - Naina Gupt and Hera Saeed Year: - 2017

As per the study Health monitoring system is an efficient system to monitor the health conditions. It helps to keep a track of one's health and keeps every concerned human in the loop. It helps to minimize the time by providing user friendly devices which senses monitors the patient's health and report the same to the concerned people. Futuristic scope to this can be a combined unit which acquires less space and is easier to operate in any environmental conditions and not affecting the results specially in outdoor monitoring.

[9] Title: - Internet of Thing Based HealthCare Monitoring System

Author: - Himadri Nath Saha and Shreyaasha Chaudhury Year: - 2017

In this project, we reviewed the IOT based technologies being used as smart hospitals in present time, their mechanisms, advantages and disadvantage. Smart hospital or Telehealth, as per designed and implemented, has been performing successfully.

Having numerous advantages, Being as dynamic as internet, the framework of IOT based health services call for designing systems still more advanced to put through the existing drawbacks. [10] Title: - Real Time Patient Monitoring System based on Internet of Things

Author: - Mohammad Salah Uddin and Jannat Binta Alam Year: - 2017

Many patients died in ICU unit due to the careless of incharge personal. In traditional system is not able to provide constant monitoring facilities. Our proposed system described in this paper allows doctors or nurses, as well as hospital in-charge personal allows them to monitor the patient in ICU unit in real time, which improves the efficiency and service quality. There is a huge opportunity to modify this system as a wearable device that allows us to monitor the older people or babies remotely from any place.

IV. PROPOSED SYSTEM

This is a centralized healthcare monitoring system using IOT device which will be connected to real time cloud. In this system we are using smart medicine box, which will be integrated with sensors like Load cell and buzzer. Load cell is nothing but the weight sensor. Load cell will detect the load or weight of medicine box. If medicine box cross the threshold weight then it will send the alert to pharmacist and relative to refill the medicine box. Medicine box data will be accessible to Doctor, pharmacist and to relatives as well. In our approach, doctor can update the prescription through web based system. Prescription can be visible to pharmacist as well if he/she use patient's RFID card.



Fig.1:- System Architecture

V. ACKNOWLEDGEMENT

I wish to express my profound thanks to all who helped us directly or indirectly in making this paper. Finally I wish to thank to all our friends and wellwishers who supported us in completing this paper successfully. I am especially grateful to our guide Prof. Mrs. Nalini Jagtap for her time to time, very much needed, and valuable guidance. Without the full support and cheerful encouragement of my guide, the paper would not have been completed on time.

VI. CONCLUSION

This concludes that our project will help to maintain health history from infant to old citizens in a single card which will simplify the task of carrying multiple documents from place to place. The proposed system will be more reliable with timely alerts of the missed medications and the unavailability of pills in the medical box.

REFERENCE

[1] An IoT based Patient Health Monitoring System D.Shiva Rama Krishnan and Subhash Chand Gupta 2018

[2] IoT Solutions for Health Monitoring: Analysis and Case Study Ivan Medvedie and Oleg Illiashenko 2018

[3] Advanced IOT Based Combined Remote Health Monitoring, Home Automation and Alarm System JayeetaSaha and Arnab Kumar Saha 2018

[4] Design of IoT based Generic Health Care SystemJ.V.Alamelu and A.Mythili 2017.

[5] Health Monitoring Based on IoT using RASPBERRY PI AmandeepKaur and AshishJasuja 2017.

[6] Healthcare monitoring system based on IoT Krishna C S and NaliniSampath 2017.

[7] An IOT based Human healthcare system using Arduino Uno board S. Jayapradha and P.M Durai Raj Vincent 2017.

[8] IOT BASED HEALTH MONITORING SYSTEMS NainaGupt and Hera Saeed 2017.

[9] Internet of Thing Based HealthCare Monitoring System HimadriNathSaha and ShreyaashaChaudhury 2017.

[10] Real Time Patient Monitoring System based on Internet of Things Mohammad Salah Uddin and JannatBintaAlam 2017.

[11] IOT Clinic-Internet based Patient Monitoring and Diagnosis System SinduDivakaran and LavanyaManukonda 2017.