International Journal of Scientific Research & Engineering Trends
Volume 7, Issue 2, March-April-2021, ISSN (Online): 2395-566X

Patient's Health Monitoring System with Smart Medicine Box

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***Abstract*- The medicine box system contains a biomedical sensor to monitor the health condition of the patient. The information about the health condition and the details of medication will be stored in the server which can be accessed by both doctor and patient and also doctor can change the prescription based on the patient's condition on the server. The intelligent medicine box will help a patient to remind the right time to take the medicine based on prescription by receiving notification to the patient's fixed email address using Wi- Fi module and he also will receive voice message using speaker. If he forgets the actual time of taking medicine and goes to take medicine at any time the medicine box will not open as a servo motor will make the box locked.**

***Keywords*- Intelligent medicine box, servo motor.**

I. INTRODUCTION

A smart IoT based healthcare system contains an intelligence medicine box associated with sensors and server for regular health monitoring. The proposed intelligent medicine box will help a patient to remind about his medication when it is time to take based on prescription through mail and alarm as well as it mentions how much tablets to take through voice message using speakers. The biomedical sensors monitor the temperature, pulse level of the patient and the data of medication and health condition of patient are stored on the server for doctor's ease.

If he forgets the actual time of taking medicine and goes to take medicine at any time the medicine box will not open as a servo motor will make the box locked. The doctor can change the updated health condition of the patient and he can change the prescription if necessary, which will also be notified via email and voice message.

Our medicinal drugcontainer is centered on customers who often take capsules or nutrition supplements or nurses who cope with the older or sufferers. Our medicinal drug container is programmable that permits nurses or customers to specify the tablet amount and day to take tablets, and the serve instances for every day. The precise quantity of tablets wishes to be taken may be displayed via way of means of a 3-section led showlocatedat the corresponding sub-container.

Compared with the conventional tablet container that calls for customers or nurses to load the containereach day or each week. Our clever medicinal drug container includes seven separate sub-boxes. Therefore, nurses or customers can set records for 3one-of-a-kindtablets. Fig 1 shows the smart medicine box in which various medicines are placed.

Fig 1. Smart Medicine Box.

When the tablet amount and time were set, the medication container will remind customers or sufferers to take tabletsthe use of sound and light. If the clever medicinal drug container could drastically launch nurses or customers' burden on often preloading tablets for sufferers or customers.

II. RELATED WORKS

The existing system works on the concept of manual of smart medicine box. This approach [6] might assist folks who are be low medicinal drug specially for antique folks to take the medication on time with out forgetting. It additionally constantly screen the people's fitness circumstance like Blood pressure, ECG thru the tensors saved at domestic and tell them to take vital action. The advantages of drug treatments are the useful outcomes you get while you operate them, consisting of reducing blood

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pressure, curing infection, or relieving pain. The dangers of drug treatments are the probabilities that some thingundesirable or surprisingmay want totake place to you whileyou operate them.

Population growing older can be a worldwide difficulty that influences numerous growing international locations like Taiwan. The herbal decline in bodily function with growing older consequences in ward thrust in incidences of varied persistent illnesses in older individuals, maximum sufferers with persistent illnesses should take medicines over a persistentquantity of some timeso that you can stabilize their conditions. making sure that the sufferers devour the right medicinal drug on the applicable time will become crucial.

This paper proposes a smarttabletcontainerprepared with a digital digicam and supported the medication bag conception. The matrix Universal Product Code written on the medication baggage is hired to behave with the tablet container up order to carry out tablet activate and make sure functions. The participants of the own circle of relatives or sufferers should fill the medication in the tablet container manually, this may be a further obligation for participants of the own circle of relatives of the older, or perhaps the sufferers. This version has an intelligent medication container that offers signals to sufferers for his or her medicinal drug at proper time. It is attached to net to make well timed updates approximately medication to patient's.

Smartphone thru notices in android application.Reduction of healthcare costs. Improved remedy management. While IoT guarantees to lessen the price of healthcare withinside the long-term, the price of its implementation in hospitals and body of workerseducation is pretty high.

III. PROPOSED SYSTEM

Sufferers fitness circumstance is monitored for aged human be in the usage of biomedical sensor and the often monitored statistics is saved with in side the server. The statistics consisting of temperature, blood pressure, coronary heart beat, glucose degree of the affected person, call of the drugs, time of the drugs to take is saved with inside the server. The clever healthcare remedy field gad get enables the sufferers to take the drugs nice the proper time for each aged and handicapped person. To alert the affected person to take the drugs mail is acquired at proper time. The affected person and the medical doctor can view the statistics and primarily based total the fitness circumstance, the docs can extrade the prescription and keep it withinside the server. Then primarily based totally on the drugs call saved with inside the server, the drugs might be supplied to the affected person from the clever remedy field. So we triumph over the mission is The age affected person won't be capable of view the mail thru mobile, in such case the affected person hears a voice message thruspeaker. If the affected person forgets the real time of taking remedy and is going t o take remedy at any time the drugs field will now no longer open as a servo motor will make the field locked. Fig 2 shows the block diagram for the smart medicine box in which various sensors are connected to the raspberry pi. The details of the medication of the patient can be viewed in website by the doctor and also, he can update the medication details after monitoring the patient's condition. The voice message is sent as notification to the elderly patient through speaker.

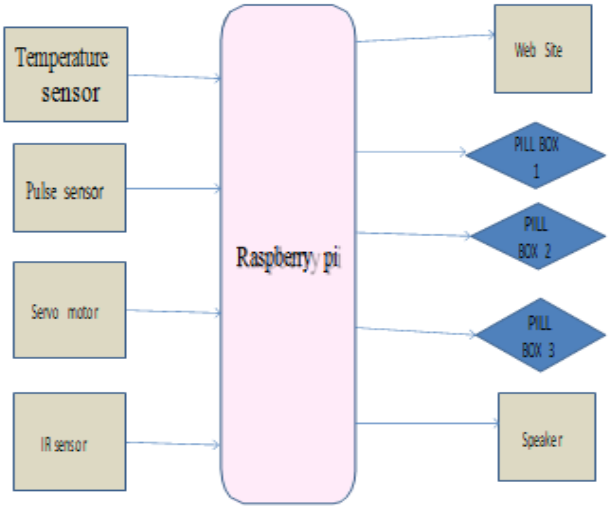

Fig 2. Block Diagram.

IV. IMPLEMENTATION

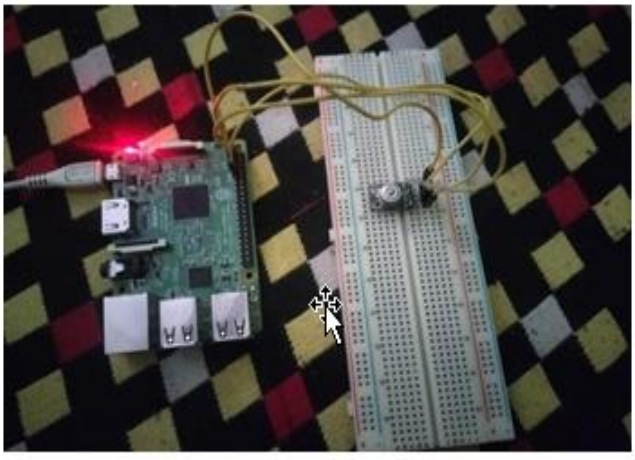

Fig 3. Hardware connection

Fig 3 shows the hardware connection of the smart medicine box. VNC viewer is used as software for implementation. XAMP server is used for storing database.

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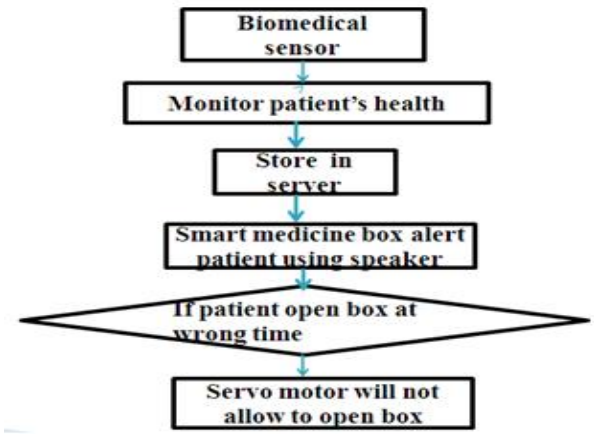

Fig 4. Flow Chart.

Fig 4 show the flow chart of the smart medicine box.

V. CONCLUSION

The proposed smart medicine box helps the patients to take medicine at the right time by receiving mail and voice message to them. The patient's health condition is monitored for elderly people using various biomedical sensors.

The information such as tablet name, time of the tablet to take, how much tablet to take and monitored health information is stored in the server. The information can be viewed by the patient and doctor in authorized manner. The doctors can change the prescription in the server based on the health monitored. Based on the medicine stored in the server the medicines will be provided from the medicine box. If the patient forgets the actual time of taking medicine and goes to take medicine at any time the medicine box will not be opened as a servo motor will make the box locked.

In future LCD display mode can be created. Messages can also be sent as normal text. Information about non-availability of medicine is sent to particular doctor via messages. Virtualization method can be used indiagonizing patients.

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