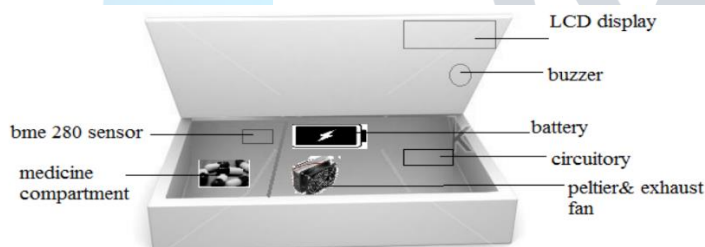# IOT IN HEALTHCARE

"Technology has bought many possibilities in education and health"

MEDIBOX

Internet of medical things (IOMT) is a collection of the medical devices connected to health care IT systems for different applications. IMOT includes improved patience experience, reduction in health care errors, concern about patient privacy and data security. Many people cannot remember whether they take medicine or not, especially elders and those who take multiple drugs. Those who delay in their dosage, under and over dosage of medicine can lead to may complexities in health. So, MEDIBOX is an intelligent medication dispensing device, designed to elderly people or busy scheduled people who often forget to take their medications or take the wrong pills or dosage.
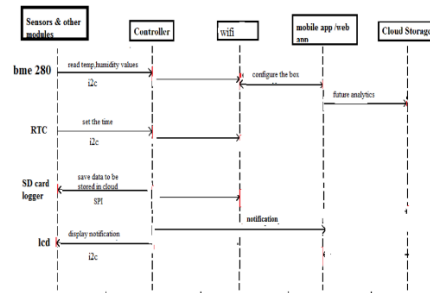
The main objective of this system is to remind the user to take a daily medicine on time. This system is very important and useful to elderly people and other patients who are facing memory related issues, missing dosage, over dosage. So, MEDIBOX helps the patience to keep track of the medicine and provides reminder to the patient to take medicine at appropriate time and prevents the consequences of missing medicine and over dosage. An overview of a MEDIBOX is shown in the figure.

Our designed MEDIBOX is successfully tested by Government of India medical device manufacturer Pvt Ltd. Approved and certified there by.
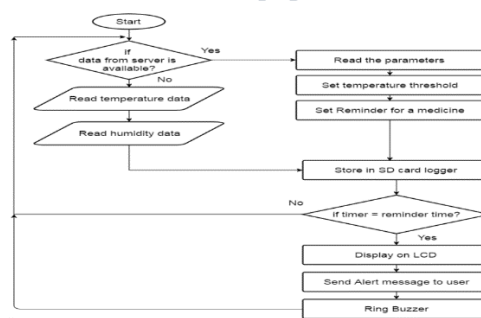
METHEDOLOGY

The system contains sensors, circuitry system, battery, Peltier cooler, battery, buzzer, LCD display, medicine compartment. BME280 sensor is to monitor the temperature and humidity of the medicine. The sensor provides the data obtained in the controller, then the controller actuates the cooler to required temperature and pressure to maintain medicines efficacy. LCD and buzzer are responsible for providing the alarm alert to the user as they are set to the medication time. When the patient misses any medicine, a suitable alarm will be generated by the buzzer the patient and corresponding medicine will be display on the LCD display. SD card logger has the data of the patient which can be later uploaded to the cloud when the wi-fi is available. It can be used to view patient's medication history by the doctor.

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1.1 Data generation and alert system

 First the system checks for the data from the server, if the data is available, sensors read the parameters like temperature, humidity and time. Based on these details, the system is actuated. if the data is unavailable, the cooler system works on the already existing temperature and humidity. Then read data is stored to SD card and later it can be stored to cloud when wi-fi is available. If the timer value and reminder time is equal, the notification will be sent to user in the form of buzzer and display.

CONCLUSION

In today's busy world, people are busy in their daily schedules and cannot remember their medication in time that leads to difficulties in their health. So, MEDIBOX is considered as a potential intelligent device which is designed using IOT technology and has a capability to remind the patient to take proper medicine in time.

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